

CALENDAR  
OF THE  
University of Queensland

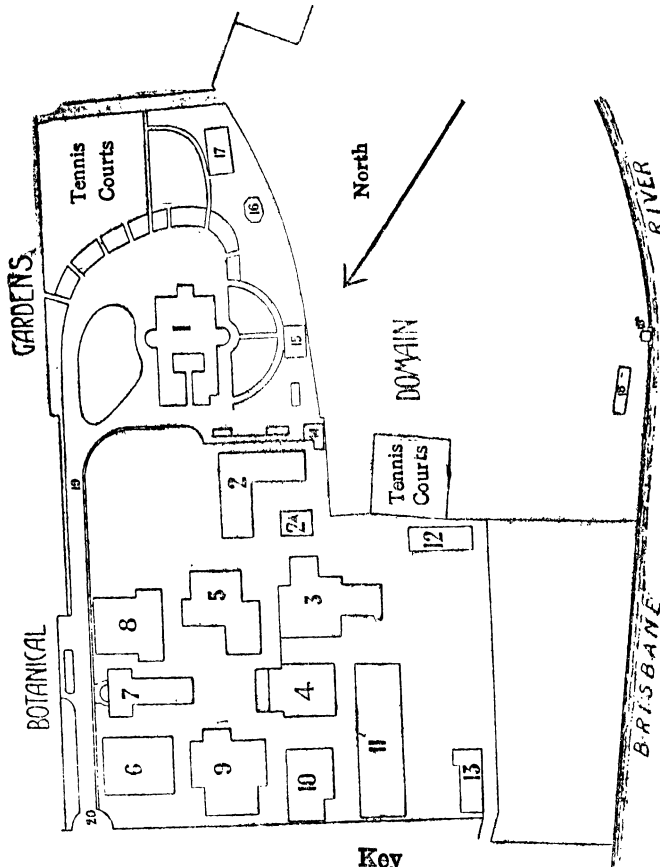
FOR THE YEAR  
. . . 1918 . . .



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## Plan of University and Grounds



### Key

- |  |                                    |
|--|------------------------------------|
| 1. University Main Building.                           | 13. Engineering Laboratory.        |
| 2. Chemistry Building.                                 | 14. Biology Animal Yard.           |
| 2A. Walter and Eliza Hall School of Applied Chemistry. | 15. Women's Common Room.           |
| *3. Engineering Building.                              | 16, 17. Men's Common Room.         |
| *4. Physics and Biology Building.                      | 18. University Boat Shed.          |
| *5. Geology Building.                                  | 18A. Pontoon.                      |
| 6-11. Central Technical College.                       | 19. Road.                          |
| 12. Metallurgy and Assaying.                           | 20. Entrance Gates, George Street. |

\*These are Central Technical College Buildings, partly occupied by the University.

## TABLE OF CONTENTS.

	Page
Plan of University and Grounds .. .. .	ii.
Preface .. .. .	v.
Calendar for 1918 .. .. .	xiii.
The University of Queensland Act of 1909 .. .. .	1
Officers of the University .. .. .	16
Statutes of the University .. .. .	23
Academic Costume .. .. .	49
Standing Rules and Orders of the Senate .. .. .	53
Regulations for the Conduct of the Business of the Council of the University .. .. .	60
Library Rules .. .. .	64
General Rules .. .. .	68
Matriculation .. .. .	72
Graduation—	
Bachelor of Arts .. .. .	77
Master of Arts .. .. .	83
Bachelor of Science .. .. .	84
Bachelor of Applied Science in Chemistry and Chemical Engineering—Walter and Eliza Hall School of Applied Chemistry .. .. .	90
Master of Science .. .. .	94
Bachelor of Engineering .. .. .	95
Master of Engineering .. .. .	104
Graduation in a Second Faculty .. .. .	106
Diploma in Mechanical and Electrical Engineering .. .. .	107
External Students .. .. .	112
Classifying Examinations of the Department of Public Instruction .. .. .	114
Details of Subjects, 1918—	
Course i.—Latin .. .. .	115
" ii.—Greek .. .. .	115
" iii.—Ancient History .. .. .	120
" iv.—English .. .. .	121
" v.—French .. .. .	122
" vi.—German .. .. .	123
" vii.—British History .. .. .	126
" viii.—Constitutional History .. .. .	127
" ix.—Economics .. .. .	128
" x.—Political Science .. .. .	128
" xi.—Logic and Psychology .. .. .	129
" xii.—Ethics and Metaphysics .. .. .	130

	Page
<b>Details of Subjects, 1918—continued :</b>	
Course <b>xiii.—Education</b> .. .. .	131
„ <b>xiv.—Pure Mathematics</b> .. .. .	133
„ <b>xv.—Applied Mathematics</b> .. .. .	134
„ <b>xvi.—Botany</b> .. .. .	135
„ <b>xvii.—Zoology</b> .. .. .	136
„ <b>xviii.—Chemistry</b> .. .. .	138
„ <b>xix.—Geology and Mineralogy</b> .. .. .	140
„ <b>xx.—Physics</b> .. .. .	142
„ <b>xxi.—Descriptive Geometry</b> .. .. .	144
„ <b>xxii.—Engineering Drawing and Design</b> .. .. .	144
„ <b>xxiii.—Applied Mechanics</b> .. .. .	146
„ <b>xxiv.—Heat Engines</b> .. .. .	147
„ <b>xxv.—Civil Engineering</b> .. .. .	150
„ <b>xxvi.—Hydraulics</b> .. .. .	155
„ <b>xxvii.—Surveying</b> .. .. .	157
„ <b>xxviii.—Building Construction and Architecture</b> .. .. .	159
„ <b>xxix.—Electrical Engineering</b> .. .. .	160
„ <b>xxx.—Mechanical Engineering</b> .. .. .	161
<b>Syllabus for Diploma in Mechanical and Electrical Engineering</b> .. .. .	162
<b>Time Tables—</b>	
Faculty of Arts .. .. .	168
Faculty of Science .. .. .	169
Faculty of Engineering .. .. .	171
<b>List of Scholarships, Exhibitions, Prizes, &amp;c.</b> .. .. .	183
<b>Results of Annual Examinations, 1917</b> .. .. .	206
<b>Class Lists—Final Honours Examinations, 1918</b> .. .. .	224
<b>Degrees Conferred in 1916, 1917, and 1918</b> .. .. .	226
<b>Members of the University</b> .. .. .	229
<b>Graduates who are Members of the Council</b> .. .. .	229
<b>Graduates who are not Members of the Council</b> .. .. .	238
<b>Members of the Council who are not Graduates</b> .. .. .	239
<b>Undergraduates, 1918</b> .. .. .	241
<b>University Prizes and Class Lists issued by the Examiners on Final Honour Examinations</b> .. .. .	245
<b>Benefactions Bestowed by Private Persons</b> .. .. .	248
<b>Report and Accounts for the Year 1917</b> .. .. .	249
<b>Roll of Honour</b> .. .. .	272
<b>Roll of Service</b> .. .. .	272
<b>Agricultural Education (Appendix)</b> .. .. .	275
<b>Bibliographical Record</b> .. .. .	305
<b>Residential Colleges</b> .. .. .	308
<b>Alphabetical List of Graduates and Undergraduates</b> .. .. .	319
<b>Examination Papers—</b>	
<b>(a) Pass Examinations, 1917.</b>	
<b>(b) Honour Examinations, 1918.</b>	



# THE UNIVERSITY OF QUEENSLAND.

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## PREFACE.

THE University of Queensland was established and endowed by an Act of the Legislature of Queensland, which received the Royal assent on 10th December, 1909.

This Act, "*The University of Queensland Act of 1909*," created a body corporate consisting of a Senate and Council and Graduate and Undergraduate Members with perpetual succession, and a Common Seal.

*The Senate.*—The Senate, which is the Governing Body of the University, consists of twenty persons; the first Members were appointed by the Governor in Council, and their names were published in the *Government Gazette* on 15th April, 1910. At this date the University and Senate is deemed by the Act to have been constituted.

The whole of the then existing members of the Senate retired from office on 30th June, 1916, on which date an election of ten members of the Senate by the Council was held. Members then elected will hold office for three years from 1st July, 1916. The remaining ten members of the Senate were appointed by the Governor in Council.

The Senate elects, at its first meeting held after the first Tuesday in March of every year, two of its members to be respectively Chancellor and Vice-Chancellor of the University.

*Powers of Senate.*—The Senate has the entire management and control of the affairs, concerns, and property of the University, and is empowered to appoint Deans, Professors, Lecturers, Examiners, and other officers and servants of the University.

*Statutes of the University.*—The Senate has power to make, alter, and repeal Statutes with respect to the management, good government, and discipline of the University, the course of education therein, and other matters. Such Statutes, when sealed with the Common Seal, are transmitted to the Secretary for Public Instruction for the approval of the Governor in Council, and, upon being approved, are published in the *Government Gazette*. When so published, the Statutes have the force of law in Queensland. Copies of every Statute must be laid before both Houses of Parliament; and either House may annul any Statute wholly or in part without prejudice to the validity of anything done in the meantime under the provisions of the Statute.

*The Council.*—The Act provided for the constitution of a Council as soon as the Graduates of the University (exclusive of Graduates of other Universities who have been admitted to Degrees in the University) were twenty-five in number. The Council was actually constituted on 25th December, 1915. The first meeting was held on 22nd February, 1916, when the Honourable Sir Robert Philp, K.C.M.G., was elected Warden. It consists of all Members and past Members of the Senate; Doctors and Masters, and other Graduates of the University of three years' standing; members of Institutions outside Queensland authorized to grant Degrees, Diplomas,

Licences, or Certificates, who may under the Statutes be admitted to be Members of the Council; persons who have made any gift or grant to the University of not less than £500 in the aggregate; and such persons as the Governor in Council may appoint as Representatives of any Commercial, Industrial, Scientific, Professional, or Educational Society, Institution, or Association within Queensland.

*Education.*—The Senate is empowered to cause instruction to be given to Students, whether matriculated or not, and to grant Degrees, Diplomas, and Certificates in any branch of knowledge. Honorary Degrees and other distinctions may be conferred upon approved persons. No religious test may be administered to any person in order to entitle him to be admitted as a Student of the University, or to hold office therein or to graduate thereat. All the benefits, advantages, and privileges of the University extend to women equally with men.

*Matriculation.*—Candidates for Degrees in the University must satisfy the Matriculation requirements of the Faculty which they propose to enter. These requirements differ in the various Faculties. Candidates must pass in the required subjects at the Public Examinations held annually by the University.

In 1916 the new scheme of Public Examinations approved by the Senate in 1914 came into operation. The Matriculation requirements amended to conform to the new scheme came into operation concurrently with the new scheme of Public Examinations.

*The Faculties.*—There are five Faculties in the University—namely, Arts, Science, Engineering, Law, and

Medicine—but of these only the three first mentioned have been organized for imparting instruction.

*Faculty of Arts.*—In the Faculty of Arts two Degrees are given—viz., Bachelor of Arts and Master of Arts. The studies for the Degree of Bachelor of Arts extend over a period of not less than three completed academical years, during which time Students are required to attend lectures (unless exempted as unable to attend), and pass the three annual examinations.

Bachelors of Arts of at least two years' standing may proceed to the degree of Master of Arts.

*Faculty of Science.*—In the Faculty of Science, the Degrees of Bachelor of Science, Master of Science, and Doctor of Science are given. Candidates for the Degree of Bachelor of Science must attend lectures, practise laboratory work, and pass examinations comprised in a course of study extending over three completed academical years.

The Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering will be given after a course of study extended over four completed academical years in the Walter and Eliza Hall School of Applied Chemistry, founded by the Walter and Eliza Hall Trustees in 1915, and finished in March, 1917.

*Faculty of Engineering.*—In the Faculty of Engineering, the Degree of Bachelor of Engineering is given in the sub-departments of: (a) Civil, (b) Mechanical, and (c) Mining Engineering. The Courses of study for the Bachelor's Degree in each case extend over four years. The Degree of Master of Engineering is also given.

A Diploma in Mechanical and Electrical Engineering is given by the University upon a course of study followed in such Technical Colleges and institutions as may be approved by the Senate on the recommendation of the Faculty of Engineering. Candidates for the Diploma must submit evidence that they are or have been engaged in engineering or in a trade closely allied thereto.

*Honours.*—Degrees with Honours are given to candidates who have taken Honours in the Final Year of their course. The term “Honours” is restricted to the Final Examination for Degrees.

*Evening Lectures.*—Provision is made for giving instruction in the evening as well as in the day time in the Faculties of Arts and Science. Evening Students are permitted to extend their course of study over a period of five years.

No work in engineering subjects is done at the University in the evening, but a course has been arranged by which a candidate may, after five years' work at a Technical College in the evening, obtain exemption from the first two years of the day engineering courses and enter the third year of the day courses in engineering upon matriculation in the Faculty of Engineering if they are proceeding to a Degree.

*External Students.*—In cases where persons who have matriculated are unable to attend lectures at or in connection with the University, exemption from lecture attendance is granted. Their studies are under the Director of Correspondence Studies, and they are deemed to be “External Students.”

*Revenue of the University.*—For the first seven years of the existence of the University, the Senate received the sum of £10,000 annually for the purpose of defraying the charges and expenses connected with the establishment, management, and control of the University, and after this period of seven years such sum as is appropriated by Parliament. The present endowment is £15,000.

*Public Examinations.*—Public Examinations for the purpose of testing the proficiency of such Candidates as may present themselves for examination are held in November. Full particulars of these examinations will be found in the Manual of Public Examinations published for the University.

*Universities' Examinations in Music.*—The Universities of Melbourne, Adelaide, Tasmania, Queensland, and Western Australia, and the State Conservatorium of Music of New South Wales conduct examinations in music under an agreement by which provision is made for a uniform standard and method throughout Australia. For details of these examinations reference should be made to the "Syllabus of Public Examinations in Music (Queensland Edition)."

*Lectures.*—The Lectures of the University are open to persons not Members of the University upon payment of the prescribed fee for each course.

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CALENDAR  
OF THE  
UNIVERSITY OF QUEENSLAND.

(JANUARY) 1918—1919 (MARCH).

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CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*January XXXI.*

1	T	New Year's Day.	1		
2	W				
3	Th				
4	F				
5	S				
6	S				
7	M		2		
8	T				
9	W				
10	Th				
11	F				
12	S				
13	S				
14	M		3		
15	T				
16	W				
17	Th				
18	F				
19	S				
20	S				
21	M			Foundation Day.	4
22	T				
23	W				
24	Th				
25	F				
26	S				
27	S				
28	M		5		
29	T				
30	W				
31	Th				

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*February XXVIII.*

1 2 3	F S S	Last day for lodging Applications for Exemption from University Work in 1918.	
4 5 6 7 8 9 10	M T W Th F S S		6
11 12 13 14 15 16 17	M T W Th F S S		7
18 19 20 21 22 23 24	M T W Th F S S	Finance Committee meets.	8
25 26 27 28	M T W Th	Board of Faculties meets. First Examination Period. [Matriculation Supplementary Examination. Annual Supplementary Examinations. Final Honours Examinations. Higher Degrees Examinations. Last day for Applications for Archibald Scholarship.]	9

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*March XXXI.*

1	F	St. David.	
2	S		
3	S		
4	M	Education Committee meets.	10
5	T		
6	W		
7	Th		
8	F		
9	S		
10	S		
11	M	Last day for entering for Courses, 1918. First Term begins.	11
12	T		
13	W	Senate meets. Election of Chancellor, Vice-Chancellor, and Committees.	
14	Th		
15	F		
16	S		
17	S		
		St. Patrick.	
18	M	Faculty of Arts meets.	12
19	T		
20	W	Faculty of Science meets.	
21	Th		
22	F	Faculty of Engineering meets.	
23	S		
24	S		
25	M	Board of Faculties meets.	13
26	T		
27	W	Last day for Matriculating, 1918. Last day for Applications for Foundation Travelling Scholarship.	
28	Th		
29	F		
30	S	Good Friday.	
31	S	Easter Eve. Easter Day.	

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*April XXX.*

1 2 3 4 5 6 7	M T W Th F S S	Easter Monday. Education Committee meets.	14
8 9 10 11 12 13 14	M T W Th F S S	Senate meets.	15
15 16 17 18 19 20 21	M T W Th F S S	Faculty of Arts meets. Faculty of Science meets. Faculty of Engineering meets.	16
22 23 24 25 26 27 28	M T W Th F S S	Board of Faculties meets. Finance Committee meets.	17
29 30	M T	Education Committee meets.	

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

May XXXI.

1 2 3 4 5	W Th F S <b>S</b>	Degree Day.	18
6 7 8 9 10 11 12	M T W Th F S <b>S</b>	Labour Day.  Senate meets.	19
13 14 15 16 17 18 19	M T W Th F S <b>S</b>	Faculty of Arts meets. Faculty of Science meets. Faculty of Engineering meets. First Term ends.	20
20 21 22 23 24 25 26	M T W Th F S <b>S</b>	Finance Committee meets.	21
27 28 29 30 31	M T W Th F	Second Term begins. Board of Faculties meets.	22

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*June XXX.*

1 2	S S		
3 4 5 6 7 8 9	M T W Th F S S	King's Birthday. Education Committee meets.	23
10 11 12 13 14 15 16	M T W Th F S S	Senate meets.	24
17 18 19 20 21 22 23	M T W Th F S S	Faculty of Arts meets. Faculty of Science meets. Faculty of Engineering meets.	25
24 25 26 27 28 29 30	M T W Th F S S	Board of Faculties meets. Finance Committee meets.	26

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*July XXXI.*

1 2 3 4 5 6 7	M T W Th F S <b>S</b>	Education Committee meets.	27
8 9 10 11 12 13 14	M T W Th F S <b>S</b>	Senate meets.	28
15 16 17 18 19 20 21	M T W Th F S <b>S</b>	Faculty of Arts meets. Faculty of Science meets. Faculty of Engineering meets.	29
22 23 24 25 26 27 28	M T W Th F S <b>S</b>	Board of Faculties meets. Finance Committee meets.	30
29 30 31	M T W	Education Committee meets.	

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*August XXXI.*

1	Th		31
2	F		
3	S	Second Term ends. Last day for sending in Essay for Thomas Morrow Prize and Verse for Ford Memorial Prize, and for announcing Subjects for 1919.	
4	S		
5	M		32
6	T		
7	W		
8	Th	Senate meets.	
9	F		
10	S		
11	S		
12	M		33
13	T		
14	W		
15	Th		
16	F		
17	S		
18	S		
19	M	Faculty of Arts meets.	34
20	T	Third Term begins.	
21	W	Faculty of Science meets.	
22	Th		
23	F	Faculty of Engineering meets.	
24	S		
25	S		
26	M		35
27	T	Board of Faculties meets.	
28	W		
29	Th	Finance Committee meets.	
30	F		
31	S		



CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*September XXX.*

1	<b>S</b>		
2	M	Education Committee meets.	36
3	T		
4	W		
5	Th		
6	F		
7	S		
8	<b>S</b>		
9	M	Friendly Societies' Day.	37
10	T		
11	W	Senate meets.	
12	Th		
13	F		
14	S		
15	<b>S</b>		
16	M	Faculty of Arts meets.	38
17	T	Faculty of Science meets.	
18	W		
19	Th	Faculty of Engineering meets.	
20	F		
21	S		
22	<b>S</b>		
23	M	Board of Faculties meets.	39
24	T		
25	W	Finance Committee meets.	
26	Th		
27	F		
28	S		
29	<b>S</b>		
30	M	Last day for entering for Annual Examination in November ; Honour Examinations in March or for Application and Examination for Higher Degrees.	

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*October XXXI.*

1 2 3 4 5 6	T W Th F S S	Education Committee meets.	40
7 8 9 10 11 12 13	M T W Th F S S	Senate meets.	41
14 15 16 17 18 19 20	M T W Th F S S	Faculty of Arts meets. Faculty of Science meets. Faculty of Engineering meets.	42
21 22 23 24 25 26 27	M T W Th F S S	Board of Faculties meets. Finance Committee meets. Third Term ends.	43
28 29 30 31	M T W Th		

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*November XXX.*

1 2 3	F S S		44
4 5 6 7 8 9 10	M T W Th F S S	Education Committee meets. <b>Second Examination Period begins.</b> [Annual Degree Examinations. Final Pass Examinations.]	45
11 12 13 14 15 16 17	M T W Th F S S	Senate meets.	46
18 19 20 21 22 23 24	M T W Th F S S		47
25 26 27 28 29 30	M T W Th F S	Board of Faculties meets. Finance Committee meets. St. Andrew.	48

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1918.

*December XXXI.*

1	<b>S</b>		
2 3 4 5 6 7 8	M T W Th F S <b>S</b>	Education Committee meets.	49
9 10 11 12 13 14 15	M T W Th F S <b>S</b>	Senate meets.	50
16 17 18 19 20 21 22	M T W Th F S <b>S</b>	Last day for entering for Supplementary Examinations in 1919.	51
23 24 25 26 27 28 29	M T W Th F S <b>S</b>	Christmas Day. Boxing Day.	52
30 31	M T		

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1919.

*January XXXI.*

1	W	New Year's Day.	1
2	Th		
3	F		
4	S		
5	<b>S</b>		
6	M	Senate meets.	2
7	T		
8	W		
9	Th		
10	F		
11	S		
12	<b>S</b>		
13	M		3
14	T		
15	W		
16	Th		
17	F		
18	S		
19	<b>S</b>		
20	M	Foundation Day.	4
21	T		
22	W		
23	Th		
24	F		
25	S		
26	<b>S</b>		
27	M		
28	T		
29	W		
30	Th		
31	F		

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1919.

*February XXVIII.*

1 2	S S	Last day for lodging Applications for Exemptions from University Work in 1918.	
3 4 5 6 7 8 9	M T W Th F S S	Education Committee meets.	6
10 11 12 13 14 15 16	M T W Th F S S	Senate meets.	7
17 18 19 20 21 22 23	M T W Th F S S	Finance Committee meets.	8
24 25 26 27 28	M T W Th F	Board of Faculties meets. <b>First Examination Period.</b> [Matriculation Supplementary Examination. Annual Supplementary Examinations. Final Honours Examinations. Higher Degrees Examinations. Last day for Applications for Archibald Scholarship.]	9

CALENDAR OF THE UNIVERSITY OF  
QUEENSLAND.

1919.

*March XXXI.*

1	S	St. David.	
2	S		
3	M	Education Committee meets.	10
4	T		
5	W		
6	Th		
7	F		
8	S		
9	S		
10	M	Last day for entering for Courses, 1919. First Term begins.	11
11	T		
12	W	Senate meets. Election of Chancellor, Vice-Chancellor, and Committee.	
13	Th		
14	F		
15	S		
16	S		
17	M	St. Patrick. Faculty of Arts meets.	12
18	T		
19	W	Faculty of Science meets.	
20	Th		
21	F	Faculty of Engineering meets.	
22	S		
23	S		
24	M	Board of Faculties meets.	13
25	T		
26	W		
27	Th		
28	F		
29	S		
30	S		
31	M	Last day for Matriculating for 1919. Last day for Application for University Travelling Scholarship.	

**THE UNIVERSITY OF QUEENSLAND ACT OF 1909.**

**AN ACT TO INCORPORATE AND ENDOW THE  
UNIVERSITY OF QUEENSLAND.**

[ASSENTED TO 10TH DECEMBER, 1909.]

**Preamble.**

WHEREAS it is desirable to promote sound learning, to encourage original research and invention, and to provide the means of obtaining a liberal and practical education in the several pursuits and professions of life in Queensland, and for such purposes to incorporate and endow a University open to all classes and denominations of His Majesty's subjects: Be it therefore enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of Queensland in Parliament assembled, and by the authority of the same, as follows:—

**Short title.**

**1.** This Act may be cited as "*The University of Queensland Act of 1909.*"

**Interpretation.**

**2.** In this Act, unless the context otherwise indicates, the following terms have the meanings set against them respectively, that is to say:—

**Council.**

"Council"—The Council of the University constituted under the authority of this Act;

**Senate.**

"Senate"—The Senate of the University constituted under the authority of this Act;



## UNIVERSITY OF QUEENSLAND.

## Statutes.

“Statutes”—Statutes of the University made under the authority of this Act;

## University.

“University”—The University of Queensland constituted under the authority of this Act.

Repeal of 34 Vic. No. 18.

3. “*The University Act of 1870*” is repealed.

*Establishment of University.*

## Establishment of University.

4. (1.) A University, to be called “The University of Queensland,” shall be established, consisting of a Senate, a Council, and Graduate and Undergraduate Members.

The governing body of the University shall consist of the Senate and the Council:

Provided that until the Council is constituted the governing body of the University shall consist of the Senate only.

(2.) The University shall be a body corporate, with perpetual succession and a common seal, and shall under its name be capable in law of suing and being sued, and of taking, purchasing, holding, and alienating all real and personal property whatsoever, whether the same is situated in Queensland or elsewhere, and of doing and suffering all such other acts and things as bodies corporate may by law do and suffer.

*Affiliated Institutions.*

## Affiliated institutions.

5. The School of Mines at Charters Towers established under “*The Schools of Mines Act of 1894*,” the Agricultural College at Gatton, Central Technical College, and the Bacteriological Institute at College Road, Brisbane

and any other educational establishment in Queensland may be affiliated with the University upon such terms and conditions as the Governor in Council by Order in Council shall declare and the Senate shall approve.

State educational institutions.

6. The Governor in Council may cause to be established and erected within the University domain any State educational institution, and such institution when established shall be affiliated with the University.

*Senate.*

The Senate.

7. (1.) The Senate shall consist of twenty persons, appointed or elected as hereinafter provided.

(2.) No person who holds any salaried office in the University as a dean of a faculty, professor, lecturer, or examiner shall, on that account only, be incapable of being appointed or elected or of acting as a member of the Senate. But the number of such officers in the Senate at the same time shall not exceed three.

First Senate.

8. (1.) The first members of the Senate shall be appointed by the Governor in Council.

(2.) The names of the persons so appointed shall be published in the *Gazette*, and the University and the Senate shall be deemed to be constituted on the date of such publication.

(3.) All the members of the Senate so appointed shall remain in office for such time as the Governor in Council may prescribe, and shall retire from office in such numbers and in such rotation as he may prescribe.

(4.) A vacancy which arises in the Senate at any time prior to the constitution of the Council shall forthwith be filled by the appointment of a member by the Governor in Council and the member so appointed shall be deemed to

have been appointed at the same time as the person whom he succeeds in office. Every such appointment shall be notified in the *Gazette*.

Disqualifications.

9. No person who—

- (i.) Is not of the full age of twenty-one years;
- (ii.) Is a Principal of any Secondary School or a person engaged in preparing students for the University;
- (iii.) Has his affairs under liquidation by arrangement with his creditors; or
- (iv.) Is an uncertificated or undischarged insolvent; or
- (v.) Has been convicted of an indictable offence, unless he has received a free pardon or has undergone the sentence passed upon him; or
- (vi.) Is undergoing a sentence of imprisonment; or
- (vii.) Is an insane person within the meaning of the laws in force for the time being relating to insanity;

shall be capable of being or continuing a member of the Senate.

Election of Chancellor and Vice-Chancellor.

10. At its first meeting held after the date of its constitution, and thereafter at its first meeting held after the first Tuesday in March in every year, the Senate shall elect two of its members to be respectively Chancellor and Vice-Chancellor of the University.

*Council.*

Constitution of Council.

11. (1.) The Council shall be constituted as soon as the graduates of the University (exclusive of graduates of

other universities who have been admitted to such degree in the University) are twenty-five in number, and shall consist of—

- (a) All members and past members of the Senate;
- (b) All graduates of the University of the degree of Master or Doctor;
- (c) All other graduates of the University of three years' standing;
- (d) All graduates of other Universities of three years' standing who have been admitted to degrees in the University;
- (e) Such fellows, members, licentiates, and associates of colleges or institutions outside the State, duly authorised to grant degrees, diplomas, licenses, or certificates, as may under the Statutes be admitted to be members of the Council;
- (f) All individual persons who have made any gift or donation to the University amounting in money or value in the aggregate to not less than five hundred pounds; and
- (g) Such persons as the Governor in Council may, from time to time, appoint as representatives of any commercial, industrial, scientific, professional, or educational society, institution, or association within Queensland:

Provided that not more than one person shall at any one time hold office as representative of any one of the aforesaid societies, institutions, or associations:

And provided that no person who—

- (a) Has been convicted of an indictable offence, unless he has received a free pardon or has undergone the sentence passed upon him; or

## UNIVERSITY OF QUEENSLAND.

(b) Is undergoing a sentence of imprisonment; or

(c) Is an insane person within the meaning of the laws in force for the time being relating to insanity;

shall be capable of being or continuing a member of the Council.

(2.) A graduate of another University who is admitted to a degree in the University shall reckon his standing from the date of his graduation in such other University.

(3.) Until the Council is constituted, the Senate shall cause to be kept a roll of all persons who are entitled to become members of the Council, and thereafter shall cause to be kept a roll of all members of the Council.

(4.) As soon as the graduates of the University as aforesaid are twenty-five in number, the Senate shall report the fact to the Secretary for Public Instruction.

The report shall be published in the *Gazette*, and the Council shall be deemed to be constituted on the date of such publication, and its first meeting shall be held within sixty days thereafter.

(5.) At its first meeting held after the date of its constitution, and thereafter at its first meeting held after the first Tuesday in March in every year, the Council shall elect one of its members to be its Warden.

(6.) As soon as the graduates of the University as aforesaid are fifty in number, the Senate shall report the fact to the Secretary for Public Instruction, and such report shall be published in the *Gazette*.

*Appointment and Election of Senate.*

Appointment and election of Senate.

**12. (1.)** When the Council is constituted, the members of the Senate shall be elected and appointed as hereinafter provided.

(2.) Elections of members of the Senate shall be conducted by ballot (including postal ballot) in accordance with the Statutes.

(3.) After the constitution of the Council and until the graduates of the University (exclusive of graduates of other universities who have been admitted to such degree in the University) are fifty in number, the Council shall be entitled to elect five members of the Senate, and the remaining fifteen members of the Senate shall be appointed by the Governor in Council.

(4.) As soon as the graduates of the University as aforesaid are fifty in number, the Council shall be entitled to elect ten members of the Senate, and the remaining ten members of the Senate shall be appointed by the Governor in Council.

(5.) The members of the Senate to be elected and appointed as hereinbefore provided shall hold office for such time as the Governor in Council may prescribe, and shall retire from office in such numbers and in such rotation as he may prescribe.

(6.) The election of members of the Senate by the Council shall be held at such time as the Governor in Council may prescribe.

(7.) The Governor in Council may, from time to time, by Order in Council published in the *Gazette*, prescribe all such matters and things and give all such directions as, in his opinion, are necessary for giving full effect to this section; and every such Order shall have the same effect as if it were enacted in this Act.

### *Vacancies.*

When office is vacant.

**13.** The office of member of the Senate shall be vacated—

(i.) If he is or has become disqualified under this Act; or

- (ii.) If, without leave obtained from the Senate in that behalf, he has been absent from all meetings of the Senate held during a consecutive period of at least six months; or
- (iii.) Upon death or resignation.

*Extraordinary vacancies.*

**14.** (1.) Any vacancy which occurs in the office of Chancellor, Vice-Chancellor, or Warden, from any cause whatsoever except retirement as prescribed, shall be filled as it occurs by election; and if any such vacancy is not so filled within three months after it occurred, then it shall be filled by the Governor in Council by the appointment of some qualified person to the office.

(2.) After the date of the constitution of the Council, any vacancy which occurs in the Senate, from any cause whatsoever except retirement as prescribed, shall be filled as it occurs by the appointment by the Governor in Council of another member, or in the case of an elected member by the election by the Council of another member; and if in the latter case any such vacancy is not so filled within three months after it occurred, then it shall be filled by the Governor in Council by the appointment of a member.

(3.) Upon the occurrence of a vacancy to which this section applies, the person appointed or elected to fill such vacancy shall be deemed to have been appointed or elected at the same time as the person whom he succeeds in office.

*Officers may be re-elected.*

**15.** Nothing herein contained shall prevent any person from being immediately or at any time reappointed or re-elected to the office of Chancellor, Vice-Chancellor, Warden, or member of the Senate, if he is capable for the time being, under this Act, of holding such office.

*Powers of Senate.*

*Powers of Senate.*

**16.** The Senate shall be the governing body of the University.

Subject to this Act and the Statutes, the Senate may from time to time appoint deans, professors, lecturers, examiners, and other officers and servants of the University, and shall have the entire management and control of the affairs, concerns, and property of the University, and may act in all matters concerning the University in such manner as appears to it best calculated to promote the interests of the University.

*Proceedings.*

Chairmanship of Senate and Council.

**17.** (1.) At every meeting of the Senate the Chancellor or, in his absence, the Vice-Chancellor shall preside as chairman.

(2.) At every meeting of the Council the Warden shall preside as chairman.

(3.) In the absence of the Chancellor and Vice-Chancellor, the members of the Senate present, and in the absence of the Warden the members of the Council present, shall elect a chairman of the meeting.

Proceedings when not to be invalidated.

**18.** No proceedings of the Senate or Council, or of any committee thereof, or of any person acting as member or as Chancellor or Vice-Chancellor or Warden, shall be invalidated by reason of any defect in the appointment or of any disqualification of any such person or by reason of there being any vacancy in the number of members of the Senate at the time of such proceedings.

*Instruction: Degrees: Examinations.*

Power to give instruction and grant degrees.

**19.** Subject to this Act and the Statutes, the Senate may cause instruction to be given to students, whether matriculated or not, and may grant degrees, diplomas, and certificates, in any branch of knowledge, and may also confer honorary degrees or other distinctions on approved persons: Provided that all degrees and other distinctions shall be conferred and held subject to any provisions which may be made in reference thereto by the Statutes.



Certain faculties to be maintained.

**20. (1.)** At all times in the University there shall be maintained and instruction shall be given in at least the three following faculties--namely,

- (a) Faculty of Arts;
- (b) Faculty of Science; and
- (c) Faculty of Engineering:

Provided that the Senate may, by Statute approved by the Governor in Council, from time to time abolish any of the said faculties or provide faculties in addition to the then existing faculties.

Diploma in Education.

(2.) There shall be granted by the University a Diploma of Education to such persons as, under the Statutes, are from time to time entitled to receive the same.

Evening lectures.

(3.) Provision shall be made by the Statutes for giving instruction in the evening as well as in day time.

Non-resident students.

(4.) Provision shall be made by the Statutes for the granting after examination of degrees and the diploma of education to persons engaged in the profession of teaching or other persons in cases where such teachers or other persons are unable to attend lectures at or in connection with the University.

Students of training schools and others to attend lectures on arts or science free.

**21.** The Senate shall allow such persons training for the position of teacher as may from time to time be approved by the Governor in Council to attend, for the purpose of graduating in Arts or Science or obtaining the Diploma of Education, the University lectures for the period required for such graduation or diploma without the payment of any fees, provided that such persons have previously passed the entrance examination prescribed by the Statutes.

Public examinations.

**22.** Subject to this Act and the Statutes, the Senate may cause public examinations to be held for testing the proficiency of such candidates as may present themselves for examination in any branch or branches of knowledge, and may grant certificates of proficiency to candidates who successfully pass such examinations.

Duties of Senate to hold certain examinations.

**23.** When any public authority is empowered by law to require any person to submit to an examination as to his proficiency in any branch or branches of knowledge, or to produce evidence of such proficiency as a condition of obtaining any appointment, scholarship, or other reward of merit, or of being admitted to any profession, calling, or office, the Governor in Council may require the Senate to undertake the examinations of persons desiring to submit themselves for examination in such branch or branches of knowledge, and the Senate shall cause such examinations to be held accordingly.

*Statutes.*

The Senate may make Statutes.

**24.** The Senate may from time to time make, alter, and repeal Statutes with respect to all or any of the following matters, that is to say—

- (1) The management, good government, and discipline of the University;
- (2) The use and custody of the common seal;
- (3) The method of election of members of the Senate by the Council;
- (4) The manner and time of convening, holding, and adjourning the meetings of the Senate and Council; the quorum of and voting at such meetings; the powers and duties of the chairman thereof; the conduct and record of the business; the appointment of committees of the Senate and Council, and the quorum, powers, and duties of such committees;

- (5) The resignation of members of the Senate and of the Chancellor or Vice-Chancellor of the Senate or Warden of the Council;
- (6) The number, stipend, manner of appointment and dismissal of deans, professors, lecturers, examiners, and other officers and servants of the University;
- (7) The matriculation of students;
- (8) The times, places, and manner of holding lectures, classes, and examinations, and the number and character of such lectures, classes, and examinations;
- (9) The promotion and extension of University teaching;
- (10) The granting of degrees, diplomas, certificates, and honours;
- (11) The conditions upon which degrees, diplomas, certificates, and honours may be granted to non-resident students;
- (12) The granting of fellowships, scholarships, exhibitions, bursaries, and prizes;
- (13) The admission of students of other Universities to any corresponding status or of graduates of other Universities to any corresponding degree or diploma without examination;
- (14) The admission as members of the Council of any fellows, members, licentiates, or associates of colleges or institutions outside the State duly authorised to grant degrees, diplomas, licenses, or certificates;
- (15) The fees to be paid for examinations, for the granting of degrees, diplomas, and certificates, and for attendance at the lectures and classes of the University;

- (16) The establishment, management, and control of libraries and museums in connection with the University;
- (17) The licensing and supervision of boarding-houses intended for the reception of students, and the suspension or revocation of such licenses;
- (18) The affiliation to or connection with the University of any educational establishment wheresoever situated, to which the governing body of such educational establishment may consent;
- (19) The control and investment of the property of the University;
- (20) Providing for a scheme of superannuation for the salaried teachers and officers of the University upon retirement;
- (21) Generally, all other matters authorised by this Act.

Statutes to be published in "Gazette."

**25.** (1.) Every Statute when approved shall be sealed with the common seal, and shall be transmitted to the Secretary for Public Instruction for the approval of the Governor in Council, and upon being so approved shall be published in the *Gazette*. It shall thereupon have the force of law.

(2.) Copies of every such Statute shall be laid before both Houses of Parliament forthwith, if then sitting, and if not then sitting, within fourteen days after the commencement of the next ensuing session. If either House of Parliament within the next subsequent thirty days resolves that any such Statute ought to be annulled in whole or in part, such Statute or part thereof shall, after the date of such resolution, be of no effect, without prejudice to the validity of anything done in the meantime under the provisions of such Statute.

(3.) The production of a copy of a Statute under the common seal, or of the *Gazette* containing a copy of the same, shall, in all proceedings, be sufficient evidence of the Statute.

*Revenue.*

**Endowment.**

**26.** During each of the seven years commencing upon such day as shall be designated in that behalf by the Governor in Council by notification in the *Gazette*, there shall be paid to the Senate out of the Consolidated Revenue, which is hereby appropriated for the purpose, the annual sum of ten thousand pounds for the purpose of defraying the charges and expenses connected with the establishment, management, and control of the University; and after such period of seven years, there shall be paid to the Senate out of the Consolidated Revenue in each year such sum as shall be appropriated by Parliament for the purposes of the University.

**Revenue.**

**27.** All fees and all other moneys received by the Senate under this Act or otherwise shall be applied by the Senate solely for the purposes of the University.

*General.*

Senate to report annually to the Governor in Council.

**28.** The Senate shall, in the month of January in each year, transmit to the Governor in Council a report of the proceedings of the University during the previous year, and such report shall contain a true and detailed account of the income and expenditure of the University during such period, audited in such manner as the Governor in Council may direct.

A copy of every such report shall be laid before both Houses of Parliament.

No religious test to be administered.

**29.** No religious test shall be administered to any person in order to entitle him to be admitted as a student of

the University, or to hold office therein, or to graduate thereat, or to enjoy any benefit, advantage, or privilege thereof.

No Statute made for the affiliation of educational establishments with the University, or for the licensing of boarding-houses for the reception of students, shall affect any religious observance or regulation enforced in any such educational establishment or boarding-house.

Act to apply to both sexes.

**30.** This Act, and all the benefits, advantages, and privileges of the University, shall extend to women equally with men.

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## UNIVERSITY OF QUEENSLAND.

## OFFICERS OF THE UNIVERSITY.

## CHANCELLOR:

The Honourable Sir Pope Alexander Cooper, K.C.M.G., M.A.,  
Chief Justice of Queensland.

## VICE-CHANCELLOR:

The Honourable A. J. Thynne, M.L.C.

## THE SENATE OF THE UNIVERSITY:

The Honourable Sir Pope Alexander Cooper, K.C.M.G., C.J.,  
M.A.  
Walter Russell Crampton  
The Most Reverend St. Clair George Alfred Donaldson, M.A.  
The Most Reverend James Duhig  
Professor Alexander James Gibson, Assoc. M. Inst. C.E.\*  
The Honourable Herbert Freemont Hardacre, M.L.A.  
John Brownlie Henderson, F.C.S., F.I.C.  
Ernest Sandford Jackson, M.B., Ch.B.  
The Honourable William McCormack, M.L.A.  
The Honourable Frank McDonnell, M.L.C.  
The Reverend Ernest Northcroft Merrington, M.A.\*  
Professor John Lundie Michie, M.A.  
Professor Henry James Priestley, M.A.  
William Nathaniel Robertson, M.B., Ch.M.  
The Reverend George Edwards Rowe  
The Honourable Thomas Joseph Ryan, B.A., M.L.A.  
John Douglas Story  
The Honourable Edward Granville Theodore, M.L.A.†  
The Honourable Andrew Joseph Thynne, M.L.C.  
George Woolnough, M.A.

## EX-CHANCELLOR.

The Right Honourable Sir William MacGregor, P.C., G.C.M.G.,  
C.B., LL.D., M.D., from 22nd April, 1910, to 10th March, 1915.

*Past Members of the Senate.*

George Washington Power, M.A., LL.M. (died 20th May,  
1910).  
The Honourable David Hay Dalrymple (died 1st September,  
1912).  
Eugen Hirschfeld, M.D. (resigned 16th December, 1914).  
The Honourable Andrew Henry Barlow, M.L.C. (died 29th  
March, 1915).  
Edward Gustavus Campbell Barton, M.I.E.E. (retired 30th  
June, 1916).  
The Honourable James William Blair (retired 30th June,  
1916).

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\* Absent on military duty.

† Appointed in place of the Honourable Albert Hinchcliffe, resigned.

Leslie Gordon Corrie, F.L.S., F.Q.I.A. (retired 30th June, 1916).  
 The Honourable Edwin Wesley Howard Fowles, M.A., LL.M., M.L.C. (retired 30th June, 1916).  
 Sir David Hardie, Knt., M.D. (retired 30th June, 1916).  
 Adolphus Marcus Hertzberg (retired 30th June, 1916; died 11th December, 1917).  
 Wilton Wood Russell Love, M.B., Ch.M. (retired 30th June, 1916).  
 Æneas John McDonnell, M.D. (retired 30th June, 1916).  
 William Alexander Morrow, M.A. (retired 30th June, 1916).  
 George Anderson Richard (retired 30th June, 1916).  
 Reginald Heber Roe, M.A. (retired 30th June, 1916).  
 John Killough Stewart (retired 30th June, 1916).  
 John James Walsh, B.A. (retired 30th June, 1916).  
 John Laskey Woolcock, B.A. (retired 30th June, 1916).  
 The Honourable Albert Hinchcliffe (resigned 13th June, 1917).

## SEANDING COMMITTEES FOR THE YEAR 1918.

The Standing Committees are appointed at the first meeting of the Senate held after the first Tuesday in March in each year.

NOTE.—The Chancellor and Vice-Chancellor are *ex officio* members of all Standing Committees.

## ADMINISTRATIVE COMMITTEE:

*Chairman:* Mr. Story.

Messrs. Crampton, McCormack, and McDonnell, Professor Michie, Messrs. Ryan and Woolnough.

*Secretary:* The Chief Clerk.

The Administrative Committee meets on the Wednesday preceding the monthly meeting of the Senate.

## BUILDING AND GROUNDS COMMITTEE:

Archbishop Duhig, Professor Priestley, Messrs. Hardacre, Henderson, Jackson, McCormack, Robertson, and Story.

*Secretary:* The Registrar.

## EDUCATION COMMITTEE.

*Chairman:* The Vice-Chancellor.

Archbishop Donaldson, Archbishop Duhig, Professor Gibson, Messrs. Henderson, Jackson, Merrington, Professors Michie and Priestley, Messrs. Robertson, Ryan, Rowe, Story and Woolnough.

*Associate Members:* Acting Professors Denham and Hawken.

*Secretary:* The Registrar.

The Education Committee meets on the 10th day (Tuesday) before each ordinary meeting of the Senate.



## UNIVERSITY OF QUEENSLAND.

## FINANCE COMMITTEE:

*Chairman:* Mr. Story.

Messrs. Crampton, Hinchcliffe, McCormack, McDonnell, and Woolnough.

*Secretary:* The Chief Clerk.

The Finance Committee meets on the last Thursday in each month.

## LIBRARY COMMITTEE:

*Chairman:* The Vice-Chancellor.

Archbishop Donaldson, Archbishop Duhig, Messrs. Hardacre, Jackson, Merrington, Professor Michie, Professor Priestley, Mr. Rowe.

*Associate Members:* Acting Professors Denham and Hawken.

*Secretary:* The Librarian.

The Library Committee meets on the 10th day (Tuesday) before each ordinary meeting of the Senate.

## UNIVERSITY EXAMINATIONS IN MUSIC COMMITTEE:

*Chairman:* The Vice-Chancellor.

Professor Gibson, Mr. Hardacre, Mr. Merrington, Professor Michie, Professor Priestley, and Mr. Rowe.

*Associate Member:* Mr. Sampson, Musical Adviser to the Senate.

## STANDING COMMITTEE ON SCIENCE AND INDUSTRY:

*Chairman:* Mr. Henderson.

Mr. Crampton, Professor Gibson, Dr. Richards, Professor Priestley, Mr. Bagster, Dr. Denham, Dr. Johnston, Mr. Parnell, and Mr. Story.

*Secretary:* Dr. Richards.

## WORKERS' TUTORIAL CLASSES JOINT COMMITTEE:

*University Representatives:* Mr. Hardacre, Mr. Mayo, Professor Michie, and Mr. Witherby.

## THE BOARD OF FACULTIES.

*President:* Professor Michie.

The Chancellor and Vice-Chancellor, Professor Priestley, Acting Professors Denham and Hawken, and for special purposes Dr. Shirley and Mr. Jones.

*Secretary:* The Registrar.

The Board of Faculties meets on the 3rd Tuesday before the Senate meeting in each month during term.

## THE FACULTIES.

NOTE.—The Chancellor and Vice-Chancellor are members, *ex officio*, of each Faculty.

## THE FACULTY OF ARTS:

*Chairman of the Faculty:* Professor Michie.

Professor Priestley, Acting Professor Denham, Messrs. Alcock, Cholmeley, Gray, Mayo, Melbourne, Priest, Seymour, and Stable.

*Secretary:* The Registrar.

The Faculty of Arts meets on the 2nd Monday before the Board of Faculties meeting in each month during term.

## THE FACULTY OF SCIENCE:

*Chairman of the Faculty:* Professor Priestley.

Mr. Bagster, Acting Professors Denham and Hawken, Dr. Johnston, Dr. Richards, Professor Steele, and Messrs. Lusby, Mayo, Parnell, and Walkom.

*Secretary:* The Registrar.

The Faculty of Science meets on the Wednesday before the Board of Faculties meeting in each month during term.

## THE FACULTY OF ENGINEERING:

*Chairman of the Faculty:* Acting Professor Hawken.

Professor Priestley, Mr. Bagster, Acting Professor Denham, Messrs. H. W. May, C. F. Pemberton, Dr. Richards, Messrs. R. E. Sexton and Weston.

*Secretary:* The Registrar.

The Faculty of Engineering meets on the Friday before the Board of Faculties meeting in each month during term.

## THE FACULTY OF LAW:

*Chairman of the Faculty:* The Chancellor.

## THE FACULTY OF MEDICINE:

*Chairman of the Faculty:* The Chancellor.

## UNIVERSITY OF QUEENSLAND.

## PAST LECTURERS :

- Engineering*: John Proctor Tivey, B.A., B.Sc., B.E., 1911-1912.  
*English, French, and German* (Assistant): Hermiene Friederica Parnell, née Ulrich, 1911-1913.  
*History and Economics*: Edward Owen Giblin Shann, B.A.,\* 1911-1912.  
*Mathematics* (Assistant): Richard Jenkins Lyons, B.A.,† 1912-1913.

## TEACHING STAFF.

## PROFESSORS :

- Chemistry*: 1910, Bertram Dillon Steele, D.Sc., absent on special leave; Henry George Denham, M.A., D.Sc. (Acting).  
*Classics*: 1910, John Lundie Michie, M.A.  
*Engineering*: 1910, Alexander James Gibson, Assoc. M. Inst. C.E. (absent on Military duty); Roger William Hercules Hawken, B.A., B.E., Assoc. M. Inst. C.E. (Acting).  
*Mathematics and Physics*: 1910, Henry James Priestley, M.A.

## LECTURERS :

- Applied Chemistry*: 1915, Lancelot Salisbury Bagster, B.Sc.  
*Biology*: 1911, Thomas Harvey Johnston, M.A., D.Sc.; Assistant, 1917, Clyde Douglas Gillies, M.Sc.  
*Chemistry*: 1912, Henry George Denham, M.A., D.Sc., Ph.D. Assistant Lecturer and Demonstrator, 1915, Thomas Gilbert Henry Jones, B.Sc.‡  
*Civil Engineering*: 1912, Roger William Hercules Hawken, B.A., B.E., Assoc. M. Inst. C.E.  
*Classics*: 1911, Roger James Cholmeley, B.A.§; Stanley Castlehow, B.A. (Acting).  
*Economics*: Vacant. Temporary, 1918, Theodore Colquhoun Witherby, M.A.  
*Electrical Engineering*: 1914, Percy Leonard Weston, B.Sc., B.E.  
*English, French, and German*: 1912, Jeremiah Joseph Stable, M.A., absent on military duty; Hermiene Friederica Parnell, M.A. (Acting), Assistant: 1913, Austin Keyingham Gray, B.A.§; 1918, Hilda Margaret McCulloch, M.A. (Acting).  
*French* (Evening): 1918, Charles Schindler, M.A.  
*History and Economics*: 1914, Henry Alcock, M.A.  
*History and Industrial History* (Assistant): 1916, Alexander Clifford Vernon Melbourne, B.A.

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\* Appointed Professor of History, University of Western Australia, 1913.

† Appointed Lecturer, University of Sydney.

‡ On Munitions Work.

§ On Active Service.

- Geology and Mineralogy*: 1911, Henry Caselli Richards, D.Sc. Assistant; 1912, Arthur Bache Walkom, D.Sc.
- Logic, Ethics, and Psychology*: 1911, George Elton Mayo, B.A.
- Logic, Psychology, and Education* (Assistant): 1914, P. A. Seymour, B.A.
- Mathematics* (Assistant): 1914, Herbert James Priest, B.A., B.Sc.
- Physics*: 1911, Thomas Parnell, M.A.\*; 1912, Sydney Gordon Lusby, M.A.
- Mathematics* (Evening): 1911, Kenneth Foulkes Swanwick, B.A., LL.B., absent on leave; 1917, James Patrick McCarthy, B.A. (Acting).

## DIRECTOR OF CORRESPONDENCE STUDIES.

- 1911, Thomas Edward Jones, B.A. Assistant: 1918, Elinor Frances Craig.

## HONORARY LECTURERS:

*Faculty of Engineering.*

- Norman Bell, Assoc. M. Inst. C.E.; E. A. Cullen, M. Inst. C.E.; W. J. Doak, Assoc. M. Inst. C.E.; W. M. Nelson; C. F. Pemberton; G. W. Thom, M.C.E.

## DEMONSTRATORS:

- Engineering*—Senior Demonstrators: 1913, Andrew Ross Munro, A.M.I. Mech. E.; 1914, Cecil Napier Ross, B.M.E.†
- Chemistry*—Demonstrator: 1918, Stewart Byron Watkins, M.Sc.; Junior Demonstrators: 1918, Harriett Peel, B.Sc.; Dorothy Annetta Manchester, B.Sc.
- Physics*—Junior Demonstrator: 1918, Ernest Joseph Burton, B.Sc.

## EXAMINERS FOR 1918:

*Faculty of Arts.*

- The Professors and Lecturers in the Faculty. *For Honours in Philosophy*: [External] Francis Anderson, M.A., Challis Professor of Logic and Mental Philosophy in the University of Sydney.

*Faculty of Science.*

- The Professors and Lecturers in the Faculty. *For Honours in Biology*: [External] William A. Haswell, M.A., D.Sc., F.R.S., Challis Professor of Biology in the University of Sydney.

*Faculty of Engineering.*

The Professors and Lecturers in the Faculty.

\* On Active Service.

† On Munitions Work.

## UNIVERSITY OF QUEENSLAND.

*Archibald Scholarship*, 1918.

Mr. Alcock; Mr. Melbourne.

*Thomas Morrow Prize*, 1918.

Mr. Stable; Mr. Seymour.

## WALTER AND ELIZA HALL BENEFACTION.

## FELLOWSHIPS:

*In Pure Chemistry*: Henry George Denham, M.A., D.Sc.,  
Acting Professor of Chemistry.

*In Economic Biology*: Mary Josephine Bancroft, B.Sc.

## WALTER AND ELIZA HALL SCHOOL OF APPLIED CHEMISTRY:

*Lecturer in Charge*: Lancelot Salisbury Bagster, B.Sc., Lecturer  
in Applied Chemistry.

## ADMINISTRATIVE STAFF.

REGISTRAR AND LIBRARIAN: Francis William Sutton Cumbræ-  
Stewart, B.A., B.C.L., Barrister-at-Law.

CHIEF CLERK AND ACCOUNTANT: Joseph Francis McCaffrey.

TYPISTS: Isabel Hurwood and Ruth Wade Law.

*Correspondence Study Department*: Dorothy Mabel Jones and  
Thelma Atkins.

*Library*: Ellen Katherine McIver.

CLERKS: John Dougal Cramb\*; Mary Jane Martin (Acting).

JANITOR: Walter Wyche. ———

UNIVERSITY SOLICITOR: Edward Henry Macartney.

HONORARY ORGANIST: George Sampson, F.R.C.O.

## MECHANICS— LABORATORY STAFF.

*Chemistry*: Charles Illidge\*, Alfred Charles Braddy (Acting).

*Engineering*: P. N. Humphreys.

*Physics*: Adolf Eduard Breuer, G. Wright\*, J. Smallbone  
(Acting).

## ATTENDANTS—

*Biology*: Harry Haynes\*, Clarence Illidge (Acting).

*Geology*: Albert Norman Falk.

## ASSISTANTS—

*Chemistry*: Robert Gib, James Mackenzie.

*Engineering*: J. M. Geary, W. Hoskins\*, Charles Roberts  
(Acting).

*Geology*: W. Whitworth.

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\* On Active Service.

**STATUTES OF THE UNIVERSITY OF QUEENSLAND.****(I.)****STATUTE RELATING TO STANDING COMMITTEES OF  
THE SENATE.**

1. Until the Senate shall otherwise determine, there shall be the following Standing Committees:—

- (a) Administrative,
- (b) Building and Grounds,
- (c) Education,
- (d) Finance,
- (e) Library.

2. The Chancellor and Vice-Chancellor shall, *ex officio*, be members of each committee.

3. At its first meeting, held after the first Tuesday in March in each year, the Senate shall appoint the members of the various Standing Committees. The members of such Standing Committees shall hold office until their successors are appointed.

4. The Senate may associate with any Standing Committee such Professors or other members of the teaching staff or other person as the Senate may from time to time determine.

5. At its first meeting in every year, each Standing Committee shall appoint one of its members to be chairman. Except as hereinafter provided, the person so appointed shall, if present, preside at every meeting of the committee; if he is absent from any meeting, the members present shall appoint a chairman for that meeting.

6. The Chancellor, or in his absence the Vice-Chancellor, shall have the right to summon a special meeting of any committee for the purpose of considering any business relating to that committee, and at such meeting the Chancellor, or if he be absent the Vice-Chancellor, shall take the chair.

7. Subject to the Statutes, by-laws, and general control of the Senate, each committee shall make its own rules in regard to the conduct of its business.

8. At any meeting of a committee, three members shall form a quorum.

9. The chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

10. Each committee shall consist of not less than seven members.

11. Subject to the supreme control of the Senate, the duties of the several committees shall be as follows:—

(a) *Administrative*—

(i.) To prepare Statutes.

(ii.) To revise Statutes submitted to it by the Senate.

(iii.) To deal with or advise in regard to matters relating to the administration of the University, including the executive staff, and all matters other than matters which are assigned by this Statute to another Standing Committee.

(b) *Buildings and Grounds*—

To deal with or advise in regard to the buildings, premises, furniture, grounds, and recreation grounds of the University, and all matters relating to any or all of these things.

(c) *Education*—

To supervise the educational affairs and discipline of the University, including the studies, examinations, books for study, the teaching and examining staff, University extension, research and reports on research, lectures, evening lectures, correspondence study, exemptions from lectures, admission *ad eundem statum* and *ad eundem gradum*, public examinations, and generally to advise the Senate for the furtherance of all matters relating to the foregoing.

(d) *Finance*—

To deal with or advise in regard to matters relating to the finances, accounts, investments, property, insurances, business, and, generally, the financial affairs of the University.

(e) *Library*—

To deal with or advise in regard to the Library of the University, including the purchase, binding, and cataloguing of books, periodicals, magazines, newspapers, and general literature.

12. Each committee shall deal with or advise in regard to any matter which may be referred or delegated to it by the Senate.

13. Each Standing Committee may appoint sub-committees, consisting of members of such Standing Committees, to report on or deal with any matter assigned, referred, or delegated to such committee. Sub-committees shall report to the Standing Committees which appointed them.

14. The Senate shall have power to review, confirm, refer back, vary, annul, or otherwise deal with any act, decision, or recommendation of a Standing Committee.

15. Each Standing Committee shall furnish to the Senate, at each ordinary meeting thereof, a report of the proceedings since the previous ordinary meeting of the



Senate. The finance committee's report shall be accompanied by a statement of the revenue and expenditure of the University since the previous ordinary meeting of the Senate.

(II.)

STATUTE RELATING TO THE FACULTIES.

1. Until otherwise determined, there shall be three teaching Faculties in the University, namely:—

- (a) Arts,
- (b) Science,
- (c) Engineering.

2. Each Faculty shall consist of the Professor or Professors of the Faculty and of such of the lecturers therein and of such other persons as the Senate may determine.

The Chancellor and Vice-Chancellor shall be *ex officio* members of each Faculty.

3. Each Faculty shall meet during term once at least in every month.

4. The Chancellor, or in his absence the Vice-Chancellor, shall have the right to summon a special meeting of any Faculty for the purpose of considering any business relating to that Faculty, and at such meetings the Chancellor, or if he be absent the Vice-Chancellor, shall take the chair.

5. At its first meeting in every year, each Faculty shall choose one of its members to be chairman of the Faculty. The name of the chairman so chosen shall be reported forthwith to the Senate, and such chairman shall hold office until his successor is appointed.

6. Until otherwise determined, three members shall form a quorum.

7. At every meeting of the Faculty, the chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

8. Subject to the supreme control of the Senate, the duties of each Faculty shall be:—

- (a) To report to the Senate upon all matters having relation to the studies, lectures, examinations, exemptions, degrees, and other matters solely pertaining to the Faculty. Statute amending the Statute relating to the Faculties, and the Statute relating to the Board of Faculties, section 1.
- (b) To secure the efficiency of the whole of the teaching of the Faculty and to make such recommendations to the Senate as seem necessary to obtain such efficiency.
- (c) To frame rules dealing with courses of study for degrees, distinctions, diplomas, or certificates, and in any matter relating to the duties of the Faculty, and to submit such rules for approval to the Senate.
- (d) To deal with any matter referred or delegated to it by the Senate or the Board of Faculties.
- (e) To consider annually all details of subjects for lectures or examinations relating to the Faculty and to transmit its recommendations concerning such details to the Board of Faculties not later than the thirty-first day of August in each year.
- (f) To advise the Board of Faculties in all such matters as are referred to the Board for advice.
- (g) To transmit to the Board of Faculties and to the other Faculties within 7 days after each meeting a report of the business transacted at that meeting. *Id.*, section 2.
- (h) To perform such other duties as the Senate may from time to time require. *Id.*, section 3.

9. The duties of a chairman of a Faculty shall be—

- (a) To act as the executive officer of the Faculty.
- (b) To convene the ordinary meetings of the Faculty and to convene special meetings, either at his own discretion or upon the written request of two members of the Faculty.

- (c) Save as hereinbefore provided, to preside at all meetings of the Faculty at which he is present; if he is absent from any meeting, the members present shall appoint a chairman for that meeting.
- (d) To transmit to the Senate or the Board of Faculties, as the case may be, all resolutions, reports, and determinations of the Faculty.
- (e) To exercise a general supervision over the business of the Faculty.
- (f) To advise students of the Faculty with reference to their courses of study.

10. The Registrar or other officer appointed by the Senate shall act as secretary to the Faculties.

11. The chairman may require from any teacher in the Faculty a statement of the details of the work being done by him.

12. There shall be two Faculties *pro forma*, viz.:—

- (a) Faculty of Law; and
- (b) Faculty of Medicine.

Until otherwise determined, no instruction shall be given in those Faculties, and their duties shall be confined to the admission *ad eundem gradum* of graduates of other approved Universities to the following degrees:—

Bachelor of Laws,  
 Master of Laws,  
 Doctor of Laws,  
 Bachelor of Medicine,  
 Doctor of Medicine,  
 Bachelor of Surgery,  
 Master of Surgery.

The Chancellor, *ex officio*, shall be, and is hereby appointed, Chairman of each of these Faculties.

## (III.)

## STATUTE RELATING TO THE BOARD OF FACULTIES.

1. There shall be a Board, to be called "The Board of Faculties."

2. The Board shall consist of the Chancellor, the Vice-Chancellor, the Professors, and such other persons, being teachers of the University, as the Board from time to time recommends and the Senate approves. The Senate may appoint any person to be a member of the Board for any particular purpose, and such person shall thereupon have all the rights, powers, and duties of a member of the Board, so far as relates to the purpose for which he is appointed.

3. At its first meeting held after the first Tuesday in March in each year, the Senate shall appoint such member of the Board as the Board recommends and the Senate approves to be President of the Board of Faculties for the ensuing year, and such President shall hold office until his successor is appointed.

4. The Board shall meet during term once at least in every month.

5. The Chancellor, or in his absence the Vice-Chancellor, shall have the right to summon a special meeting of the Board of Faculties for the purpose of considering any business relating to the Board, and at such meeting the Chancellor, or if he be absent the Vice-Chancellor, shall take the chair.

6. Until otherwise determined, three members shall form a quorum.

7. At every meeting of the Board the chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

8. Subject to the supreme control of the Senate, the duties of the Board of Faculties shall be—

(a) To manage and superintend the discipline of all students in the University, for which purposes

the Board may delegate to the Professors and such other teachers as the Senate may determine the power in any case to impose a fine for any breach of discipline to an amount not exceeding one pound, or to suspend from attendance at their lectures for a period not exceeding three days. The Board shall not have the power to rusticate any student.

[By resolution of the Senate of 11th June, 1913, in any case of breach of discipline any Lecturer of the University shall have power to suspend the offender from attendance at his Lectures for any period not exceeding three days; provided that if he so suspend any student for a period exceeding twenty-four hours, he shall immediately report the matter to the President of the Board of Faculties.]

- (b) To arrange annually, on the recommendation of the proper Faculty, all matters concerning the time tables and details of subjects and lectures and examinations in the University. In any matters pertaining to one Faculty only the Board shall adopt the Faculty's recommendation if, after consideration, the Faculty decline to alter it. In any matter pertaining to more than one Faculty if the recommendations of the Faculties do not coincide, the Board shall, after further consultation with the Faculties, make the necessary arrangements.
- (c) To make recommendations to the Senate in regard to the appointment of Assistant Lecturers, Demonstrators, Examiners, or other officers connected with the teaching or examining work of the University.
- (d) To advise upon the following matters:—
- (i.) Promotion and extension of University teaching.
  - (ii.) Affiliation to, or connection with, the University, of any educational establishment.

Statute amend-  
ing the Statute  
relating to the  
Faculties, and  
the Statute  
relating to the  
Board of  
Faculties,  
section 4.

- (iii.) Promotion of research within the University and obtaining of reports from time to time upon such research.
  - (iv.) Arrangements for evening lectures.
  - (v.) Organization and direction of a Correspondence Study Department in connection with the University.
  - (vi.) Exemption of students from attendance at lectures for personal or special reasons. Statute amending the Statute relating to the Faculties, and the Statute relating to the Board of Faculties, section 5.
  - (vii.) Admission of persons *ad eundem statum* or *gradum*. Board of Faculties, section 5.
  - (viii.) Arrangements for the holding of the Public Examinations.
  - (ix.) Award of scholarships and prizes.
- (e) To report to the Senate upon any matter submitted to it by the Senate and to furnish to the Senate such information as may from time to time be required.
  - (f) To consider any report submitted to it by any Faculty.
  - (g) To frame rules upon any matters relating to the duties of the Board of Faculties and to submit such rules for the approval of the Senate.
9. The duties of the President shall be—
- (a) To act as the executive officer of the Board of Faculties.
  - (b) To convene the ordinary meetings of the Board of Faculties and to convene special meetings either at his own discretion or upon the written request of three members of the Board.
  - (c) Save as hereinbefore provided, to preside at all meetings of the Board of Faculties at which he is present; if he is absent from any meeting, the members present shall appoint a chairman for that meeting.

- (d) To transmit the resolutions of the Board of Faculties to the Senate and to such of the Faculties or other bodies or persons as may be concerned in or affected by such resolutions.
- (e) To report to the Senate without delay any case of neglect of duty, misconduct, or inefficiency on the part of any officer of the University which comes under his notice and which he deems sufficiently serious to warrant such action.
- (f) To perform such other duties as shall from time to time be required by the Senate.

10. The Registrar or other officer appointed by the Senate shall act as Secretary to the Board of Faculties.

11. Any member or student of the University affected by any decision of the Board, or of the President of the Board, may appeal therefrom to the Senate.

12. A summary of the proceedings of each meeting of the Board, whether ordinary or special, shall be submitted to the Senate at its first ordinary meeting held after the meeting of the Board.

13. The Senate shall have power to review any decision of the Board or of the President of the Board, and to confirm, refer back, vary, or annul such decision.

#### (IV.)

##### STATUTE RELATING TO THE BOARDING-PLACES OF UNDERGRADUATES.

1. Every undergraduate shall, during his period of attendance at the University, dwell—
- (a) With his parents or lawful guardians; or
  - (b) With some near relative or friend selected by his parents or guardians, and approved by the Chancellor or Vice-Chancellor; or
  - (c) With a tutor approved by the Chancellor or Vice-Chancellor; or

- (*d*) In some collegiate or educational establishment affiliated to the University or approved by the Senate; or
- (*e*) In a boarding-house licensed by the Senate.

The Chancellor or Vice-Chancellor shall have power to exempt any undergraduate, for special reasons, from the necessity of complying with the requirements of this Statute.

2. Every person desirous of being licensed to keep a boarding-house for the reception of students shall apply in writing to the Registrar in the form of the Schedule hereto, and shall furnish such particulars and supply such credentials as may be required.

3. Applications shall be in the prescribed form and shall be accompanied by a fee of two shillings and six pence.

4. Every license shall be granted for a definite period, but may be renewed from time to time. All renewals must also be for definite periods. Any license may be cancelled at any time by the Senate.

5. Licenses may be transferred, with the approval of the Senate, upon the payment of a fee of two shillings and six pence.

6. The Registrar shall keep a register of all licenses and of all renewals and cancellations of licenses.

7. All licensed boarding-houses shall be subject to inspection by the Registrar or such other person as the Senate may approve.

8. The Registrar shall, on application, supply parents, guardians, students, or intending students, with particulars in regard to approved tutors, approved collegiate or educational establishments, and licensed boarding-houses.

#### SCHEDULE.

##### *Application for Boarding-house License.*

I, \_\_\_\_\_, of \_\_\_\_\_, hereby apply to be licensed to keep a boarding-house in respect of premises situated at \_\_\_\_\_, for the lodgings of \_\_\_\_\_, undergraduate members of the University.



The following is a description of the premises and of the accommodation therein provided:—

The following is a list of the charges proposed to be made:—

Herewith is sent a certificate of good fame and character, signed by two respectable householders, together with the prescribed fee of two shillings and six pence.

In the event of a license being issued to me, I undertake to be bound by the conditions endorsed hereon.

To the Registrar.

Signature of Applicant.

CONDITIONS TO BE OBSERVED BY LICENSED KEEPERS OF  
BOARDING-HOUSES.

1. The licensee shall keep a list of all undergraduates residing in the licensed boarding-house, and shall produce the same to the Registrar at any time when called upon.
2. The licensee shall furnish to the Registrar at the end of each month during term a list of all the undergraduates who are then residing or who have resided in the licensed boarding-house during the term since the issue of the license, or since the previous list was furnished.
3. The licensee shall permit the Registrar or any other person whom the Senate may approve to enter and inspect the boarding-house at all convenient times.

(V.)

STATUTE RELATING TO THE ADMISSION OF GRADUATES OF  
OTHER UNIVERSITIES TO DEGREES IN THE UNIVER-  
SITY OF QUEENSLAND.

1. The Senate may, in its discretion, admit any graduate of good fame and character of any of the undermentioned Universities holding any of the undermentioned degrees to a corresponding degree in the University of Queensland without examination upon his making application in that behalf in the prescribed form and paying the prescribed fee.
2. Until otherwise provided by resolution of the Senate, the prescribed fee shall be £1 1s. in respect of each degree.

3. The Universities to which this Statute applies shall be as follows:—

- (a) Any University in the United Kingdom;
- (b) Any University in any other part of His Majesty's Dominions recognised from time to time by resolution of the Senate;
- (c) Any other University recognised from time to time by resolution of the Senate.

4. The degrees of other Universities to which this Statute applies shall be as follows:—

Other Universities.	University of Queensland.
<i>(a) Faculty of Arts—</i>	
Master of Arts ..	Corresponding to Master of Arts
Bachelor of Arts ..	„ „ Bachelor of Arts
<i>(b) Faculty of Science—</i>	
Doctor of Science ..	„ „ Doctor of Science
Master of Science ..	„ „ Master of Science
Bachelor of Science ..	„ „ Bachelor of Science
<i>(c) Faculty of Engineering—</i>	
Master of Engineering	„ „ Master of Engineering
Bachelor of Engineering or Bachelor of Civil Engineering	„ „ Bachelor of Engineering
<i>(d) Faculty of Laws—</i>	
Doctor of Civil Law or Doctor of Laws	„ „ Doctor of Laws
Master of Laws .. ..	„ „ Master of Laws
Bachelor of Civil Law or Bachelor of Laws	„ „ Bachelor of Laws
<i>(e) Faculty of Medicine—</i>	
Doctor of Medicine ..	„ „ Doctor of Medicine
Master of Surgery (Ch.M. or M.S.)	„ „ Master of Surgery (Ch.M.)
Bachelor of Medicine ..	„ „ Bachelor of Medicine
Bachelor of Surgery (Ch.B. or B.S.)	„ „ Bachelor of Surgery (Ch.B.)

NOTE.—By resolution of the Senate of 18th September, 1912, no person holding a degree *ad eundem gradum* shall proceed to a higher degree without examination.

## (VI.)

## STATUTE RELATING TO MATRICULATION.

This Statute will be found at page 72.

## (VII.)

STATUTE RELATING TO THE DEGREE OF BACHELOR  
OF ARTS.

This Statute will be found at page 77.

## (VIII.)

STATUTE RELATING TO THE DEGREE OF BACHELOR  
OF SCIENCE.

This Statute will be found at page 84.

## (IX.)

STATUTE RELATING TO THE DEGREE OF BACHELOR  
OF ENGINEERING.

This Statute will be found at page 95.

## (X.)

STATUTE RELATING TO THE DIPLOMA IN MECHANICAL  
AND ELECTRICAL ENGINEERING.

This Statute will be found at page 106.

## (XI.)

## STATUTE RELATING TO THE DEGREE OF MASTER OF ARTS.

This Statute will be found at page 83.

## (XII.)

## STATUTE RELATING TO THE DEGREE OF MASTER OF SCIENCE.

This Statute will be found at page 94.

## (XIII.)

STATUTE RELATING TO THE DEGREE OF MASTER OF  
ENGINEERING.

This Statute will be found at page 104.

## (XIV.)

STATUTE RELATING TO THE ROBERT PHILP SCHOLARSHIP.

This Statute will be found at page 191.

## (XV.)

STATUTE RELATING TO THE FEES TO BE PAID FOR EXAMINATIONS FOR THE GRANTING OF DEGREES, DIPLOMAS, AND CERTIFICATES, AND FOR ATTENDANCE AT THE LECTURES AND CLASSES OF THE UNIVERSITY.

1. It is hereby declared that all payments made or to be made by persons in accordance with the provisional table of fees set forth in the First Schedule hereto shall be good and sufficient and may be taken and received by the Registrar on behalf of the University in respect of the Examinations, Degrees, Lectures, and Classes of the University from persons who entered the University or who attended the Classes and Lectures thereat previous to the 31st day of December, 1913.

2. The fees to be paid to the Registrar by all persons who after the 1st day of January, 1914, enter the University of Queensland or attend the Classes and Lectures thereat for examinations for the granting of Degrees, Diplomas, and Certificates, and for attendance at the Lectures and Classes of the University, shall be as set forth in the Second Schedule hereto.

3. It shall be lawful for the Senate to make provision by regulation for the time and manner in which the fees shall be paid.

4. Nothing in this Statute contained shall be deemed to prevent the Senate in proper cases from deferring the payment of fees for such period as may be thought fit.

## THE FIRST SCHEDULE.

*[Obsolete.]*

## THE SECOND SCHEDULE.

	£	s.	d.
The following shall be the fees payable:—			
(a) Matriculation .. .. .	1	1	0
(b) Admission <i>ad eundem gradum</i> and to graduation	3	3	0
(c) Admission <i>ad eundem statum</i> .. .. .	1	1	0
(d) Lecture fees for single subjects, for each course of lectures, per term .. .. .	2	2	0
(e) Laboratory fees for any single subject in the Faculty of Science—			
(i.) For a first-year course—			
Per term .. .. .	2	2	0
Per annum .. .. .	5	5	0
(ii.) For a second-year course—			
Per term .. .. .	4	4	0
Per annum .. .. .	10	10	0
(iii.) For a third-year course—			
Per term .. .. .	6	6	0
Per annum .. .. .	15	15	0
(f) Composition fees for complete courses leading to a degree in the Faculty of Arts—			
(i.) For any year, including no subjects involving laboratory work .. .. .	12	12	0
(ii.) For any year, including one subject involving laboratory work .. .. .	15	15	0
(iii.) For any year, including two subjects involving laboratory work .. .. .	18	18	0
(g) Composition fees for complete courses of study leading to a degree in the Faculty of Science— for all lectures and laboratory courses for any year .. .. .	21	0	0
(h) Composition fees for complete courses of study leading to a degree in the Faculty of Engineering—for all lectures and laboratory courses for any year .. .. .	22	1	0
(i) Evening and external students who avail themselves of the permission to pass in a smaller than the prescribed number of subjects in any year shall pay a corresponding proportion of the composition fee for that year.			

(j) Fees for single subjects in the Faculty of Engineering—

Subject.	Year.	Fee per Term.
Descriptive Geometry and Drawing	1	£2 2s.
Applied Mechanics .. ..	2	£3 3s., including laboratory work.
Heat Engines I. .. ..	2	£3 3s., " " "
Civil Engineering I. .. ..	3	£2 2s.
Testing Materials .. ..	3	£2 2s.
Surveying I. .. ..	3	£3 3s., including field work.
Hydraulics .. ..	3	£3 3s., including laboratory work.
Engineering Design .. ..	2	£3 3s.
Engineering Design .. ..	3	£3 3s.
Surveying II. .. ..	4	£4 4s., including field work.
Civil Engineering II. .. ..	4	£6 6s., including Electrical Engineering and laboratory work.
Engineering Design .. ..	4	£3 3s.
Engineering Chemistry .. ..	3	£2 2s., including laboratory work.
Applied Electricity .. ..	3	£3 3s., " " "
Heat Engines II. .. ..	3	£2 2s., " " "
Mechanical and Electrical Engineering	4	£6 6s., complete course only.
Assaying .. ..	4	£4 4s.
Metallurgy .. ..	4	£4 4s.
Mining Engineering .. ..	4	£4 4s., including Electrical Engineering and laboratory work.
Engineering Design .. ..	4	£3 3s.

(k) Examinations—

(i) Supplementary .. .. .	£	s.	d.
	2	2	0
(ii) Degree of Master, payable on entry for or on claim of exemption from examination .. ..	14-12-17.	3	3 0
This includes admission to the Degree.			
If candidate sits again in another year, a further fee of .. .. .			
	1	1	0

LABORATORY APPARATUS AND MICROSCOPES.

Students are provided with the laboratory apparatus required by them upon payment of £2 2s. during the first year; £2 2s. during the second year; and £2 2s. during the third year.

Deductions are made on account of all breakages and dirty material, and the balance is refunded to the student at the end of the third year, or when he leaves the University or ceases work in the laboratory.

Students may provide their own microscopes, if of an approved pattern, but a certain number are provided by the University, which are available for students upon payment of £1 1s. per year. 8-9-15.

## ANNUAL AND SUPPLEMENTARY EXAMINATIONS.

Students who have paid the prescribed fees for the year in respect of subjects for which they desire to sit at the annual examinations at the end of the year will be allowed to sit therefor without payment of any further fee; but students who fail in this examination will be required to pay a fee of £2 2s. in connection with their entries for the Supplementary Examination in March.

## SPECIAL NOTICE AS TO PAYMENT OF FEES.

All fees for lectures, examinations, or degrees are to be paid to the credit of the University Account at the Government Savings Bank, George street, or at one of its branches. Special deposit slips have been prepared in triplicate, and may be obtained either at the Savings Bank Office at George street or at the University Office. One part of the deposit slip will be retained by the Student or examinee as his receipt for payment, the second part is to be forwarded to the Registrar of the University for the necessary action in regard to the fee paid, and the third part will be retained by the bank in the usual way. In the case of candidates for examination it is necessary that they should forward with their Entry Form Deposit Slip, duly stamped and initialled by the receiving teller, otherwise the entry will be regarded as incomplete. All fees are payable in advance, and no person will be admitted to any lecture or examination for which a fee is prescribed until production of a certificate that the fees for the particular course or examination are paid.

In the case of non-matriculated Students taking an approved course of study in any Faculty, if the fees chargeable for the subjects of the course exceed the composition fee, the ordinary composition fee will be charged.

For original research undertaken on the recommendation and under the direction of the Professor or Lecturer in Charge, the Laboratories of the University may be opened gratis to Graduates of the University, except as regards such payment for material and special attendances as may be considered necessary by the Professor or Lecturer. Application to be made to the Registrar and approved by the Chancellor.

## (XVI.)

STATUTE RELATING TO THE METHOD OF ELECTION OF  
MEMBERS OF THE SENATE BY THE COUNCIL.*Short title.*

1. This Statute may be cited as "The Senate Election Statute," and shall be read and construed with the Act.

*Interpretation.*

2. In this Statute, unless the context otherwise indicates, the following terms shall have the meanings set against them respectively, that is to say:—

“The Act”—“*The University of Queensland Act of 1909.*”

“Council”—The Council of the University constituted under the Act.

“Election”—An election of a member or members of the Senate by the Council.

“Warden”—The Warden of the Council of the University of Queensland or some person appointed by him, by writing under his hand, as a substitute to act for him, or, in case of his refusal or inability to make such appointment, or, in case he shall be a candidate for election to the Senate, some person appointed by the Senate to act for him or in his stead for the purposes of this Statute.

“Roll”—The Roll of members of the Council.

“Senate”—The Senate constituted under the Act.

3. So soon as the Council is constituted under the Act, the Warden shall with reasonable despatch prepare a Roll of all members of the Council, and shall thereafter in each and every year revise the same to accord with the membership of the Council for the time being.

4. The Roll shall be in the following form:—

*List of Members of the Council of the University of Queensland.*

Number	Member's Surname.	Member's Christian Name.	Degree or Qualification.

Dated the                      day of                      , 19 .

Warden.



5. The Roll as so prepared and from time to time revised shall be the Voters' Roll for the time being for the election of a member or members of the Senate, and the same shall be conclusive evidence of the right to vote of every member whose name shall appear thereon.

6. The Warden shall at all times after preparing the Roll as aforesaid prepare a register of the addresses of all members of the Council for the time being, in which shall appear the last-known place of abode known to him of each member, and in the case of members whose last-known place of abode is outside the boundaries of the Commonwealth of Australia or of the Dominion of New Zealand, a further address within the boundaries of the State of Queensland, to be supplied by each of such members, to be known as the address for service of any notice form or ballot-paper required to be served upon or sent to any such member, and any notice form or ballot-paper given or sent to such address shall be deemed to be sufficiently given or sent.

Failing the supply of an address for service by any such member as aforesaid, the posting of any notice on the University notice board shall be sufficient, and the sending of any notice form or ballot-paper as hereinafter provided shall not in such cases be necessary.

*Notice of holding of election.*

7. Sixty clear days before the day prescribed by the Governor in Council for holding an election, the Warden shall give public notice of such election by advertisement in the *Government Gazette*, or in a newspaper published and generally circulating in Brisbane, and by posting same on the University notice board. The Warden shall also cause to be delivered or posted to each member whose name shall appear on the roll at the last-known place of abode or address for service of such member, as the case may require, a circular memorandum notifying such election, together with a form of nomination-paper. The omission to send such circular memorandum or nomination-paper to all or any of such members shall not, however, operate to invalidate an election.

*Nomination of candidates.*

8. The notice shall specify a day, not less than twenty nor more than thirty days after the publication of the notice,

as the day of nomination, and shall require the candidate or candidates at such election to be nominated in manner hereinafter appearing at some place in Brisbane to be named in the notice.

*Manner of nomination.*

9. In order that a person may be or become a candidate at an election, he must be nominated by not less than five members of the Council entitled to vote in manner following, that is to say:—Before four o'clock in the afternoon of the day of nomination there shall be delivered to the Warden, at the place appointed by the notice, who shall if required give a receipt for the same, a nomination-paper naming such person as a candidate at such election, and signed by the persons nominating him and by the person nominated in the following form:—

We, the undersigned, members of the Council of the University of Queensland, hereby nominate [*stating Christian and surname and degree, if any*] for the office of Member of the Senate of the University. [*In the case of an extraordinary vacancy add "In the place of A.B., deceased," or as the case may be.*]

Dated the                      day of                      , 19 .

[*Here are to follow the signatures.*]

I consent to be nominated as aforesaid.

G.H.

No person who is not so nominated or who has not so consented shall be or be deemed to be a candidate at the election.

*Certificate of Warden.*

10. If the Warden is satisfied that the provisions of this Statute with respect to a nomination-paper have been substantially complied with, he shall make and sign at the foot thereof a certificate in the form following, or to the like effect:—

I, the undersigned                      , Warden of the Council of the University of Queensland, do hereby certify that I received this nomination at                      o'clock in the                      noon this                      day of                      , 19 , and that the provisions of the Statute with respect to it have been complied with.

A.B.,  
Warden.

But no such certificate shall be construed to qualify any person to be a candidate or to sign the nomination-paper who is not qualified to be a candidate or to sign the same.

*Result if only number to be elected nominated.*

11. If the number of persons who are duly nominated as candidates at any election does not exceed the number of members to be elected, the Warden shall publicly notify, by advertisement in some newspaper published in or generally circulating in Brisbane, the name of the candidate or candidates who have been duly elected, and shall thereupon certify to the Senate in writing under his hand the name or names of the persons so elected and the date of his declaration thereof.

*Result if more nominated than to be elected.*

12. If the number of persons who are duly nominated as candidates at any election exceeds the number of members to be elected, the warden shall publicly notify, by advertisement in some newspaper published or generally circulating in Brisbane, the names of the persons who have been so nominated as candidates, and for deciding between such candidates a poll shall be taken in manner hereinafter provided.

*Appointment of scrutineers.*

13. The Chancellor or, in his absence, the Vice-Chancellor or, in the absence of both, some member of the Senate deputed by the Chancellor or the Vice-Chancellor shall appoint two persons to be scrutineers for the examination of the ballot-papers.

*Election not to be questioned.*

14. No election shall be liable to be questioned by reason of—

- (i.) Any defect in the title or any want of title of any person by or before whom such election is held if such person really acted at the election; or

- (ii.) Any formal error or defect in any declaration or other instrument or in any publication made under this Statute or intended to be so made; or
- (iii.) Any such publication being out of time; or
- (iv.) Any delay in holding the election at the time appointed or in taking the poll; or
- (v.) In consequence of any impediment of a merely formal nature.

And the Governor in Council may by proclamation remove any obstacle of a merely formal nature or cure any formal defects by which the due course of any election may be impeded, or declare the validity of any election where such may appear to be reasonable and just, notwithstanding informality of any kind.

*Poll, how taken.*

15. When a poll is required to be taken, the following provisions shall have effect:—

- (i.) The Warden shall, without unreasonable delay after the day of nomination, cause to be delivered or posted to each member of the Council whose name shall appear on the roll at his last-known place of abode or address for service, as the case may require, a printed ballot-paper and a notification of the number of members to be elected addressed to such last-known place of abode or address for service, as the case may require.
- (ii.) The envelopes containing the ballot-papers so posted by the Warden shall be endorsed with the words "Council of the University of Queensland, Ballot-paper."
- (iii.) Every ballot-paper shall contain in alphabetical order the full names of all the candidates for the election, and shall be initialled by the Warden.
- (iv.) The ballot-paper shall be so printed and prepared that the voter may effectually conceal the names of the persons for whom he has voted.

*Form of ballot-paper.*

16. The ballot-paper shall be in the following form, that is to say:—

---

A.	<i>Gummed Edge.</i>	B.
----	---------------------	----

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*Perforation.*

Indicate your vote by making a cross in the square opposite the names of the candidates or candidate for whom you vote. Gum the tops and sides of the paper down so that the letters AA and BB in the corners meet. Then place the paper in the accompanying envelope, close up the envelope, and post it at a post office.

Every ballot-paper which provides votes for a greater or lesser number of names than the number of candidates to be elected will be rejected.

A.B.,  
Warden.

*Fold the paper here.*

- BROWN, JOHN
- GREEN, CHARLES
- SMITH, ABEL
- WILLIAMS, GEORGE.

*Perforation.*


---

A.		B.
----	--	----

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*Perforation.*

I [*name in full*] of [*address and occupation*], am a member of the Council of the University of Queensland, and am entitled to vote at the election of a member or members of the Senate of the University, which is to take place on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_.

Witness:

E.F.

C.D.

*Warden to examine and count votes.*

17. At or after five o'clock on the afternoon of the day appointed for the poll, the Warden shall, in the presence of the scrutineers but not of any candidate, examine and count the number of votes received for each candidate, observing in respect of each ballot-paper the following directions:—

- (i.) He shall first mark off the voter's name upon a copy of the roll signed by him as a correct copy for the purposes of the election.
- (ii.) He shall then examine the ballot-paper, and if it is regular shall allot the votes in accordance therewith to the various candidates.
- (iii.) If the ballot-paper is not regular, he shall reject it.
- (iv.) When all the ballot-papers have been examined, he shall make out a written statement, signed by himself and countersigned by the scrutineers, containing the names of the candidates and the numbers, in words as well as in figures, of the votes received for each candidate.
- (v.) He shall as soon as possible thereafter, by advertisement in a newspaper published or generally circulating in Brisbane, declare in alphabetical order the name or names of the candidates elected, and shall post the same on the University notice board.
- (vi.) He shall thereupon certify to the Senate in writing under his hand the name or names of the candidate or candidates so elected, and the date of the declaration of the result of the election.

*Informal and imperfect votes.*

18. At the examination of ballot-papers every ballot-paper which—

- (i.) Is not signed by the voter, or
  - (ii.) Is manifestly irregular, or
  - (iii.) Provides votes for a greater or lesser number of names than the number of candidates to be elected,
- shall be rejected.

*Casting vote.*

19. If the number of votes for two or more candidates is found to be equal, the Warden shall decide by his casting vote which shall be elected.

The Warden may, if qualified, vote at the election in addition to giving a casting vote.

*Disposal of ballot-papers.*

20. The Warden shall forthwith after the declaration of the result of the election make up, securely fasten, and seal in one packet all the ballot-papers, together with the signed copy of the roll before-mentioned, and safely keep the same for twelve months, and at the expiration of such period of twelve months he shall cause the same to be destroyed in the presence of the Registrar of the University.

## (XVII.)

STATUTE RELATING TO THE USE AND CUSTODY OF THE  
COMMON SEAL OF THE UNIVERSITY OF QUEENSLAND.

The Common Seal of the University shall be and remain in the custody of the Chancellor and the Registrar, and shall not be fixed to any document except pursuant to a Resolution of the Senate.

## (XVIII.)

STATUTE RELATING TO THE DEGREE OF BACHELOR OF  
APPLIED SCIENCE IN CHEMISTRY AND CHEMICAL  
ENGINEERING.

This Statute will be found at page 91.

## (XIX.)

STATUTE RELATING TO THE SIR THOMAS McILWRAITH  
SCHOLARSHIP.

This Statute will be found at page 202.

**ACADEMIC COSTUME.**

## RULES.

*Chancellor.*

*Cap:* Cloth trencher with gold tassel.

*Gown:* Ordinary Chancellor's gown—or Habit of his degree—with a black silk stole embroidered with seven blue Maltese Crosses encircled with gold braid.

*Vice-Chancellor.*

*Cap:* Similar to Chancellor.

*Gown:* Similar to Chancellor, but with five Maltese Crosses on the stole.

*Members of Senate.*

*Cap:* Similar to Chancellor.

*Hood:* Of degree, if any.

*Gown:* A black silk or stuff gown with tippet of same material. The tippet to be edged with gold braid on a foundation of red silk ribbon and the sleeves caught up in front with gold braid on a similar foundation, about six inches in length, and gold buttons. <sup>19-4-18.</sup>

*Ex-members of Senate.*

12-4-16.

*Cap:* Cloth trencher with black silk tassel.

*Hood:* Hood of Degree, if any.

*Gown:* As for Members of Senate.

*Professors.*

*Cap:* Cloth trencher with black silk tassel.

*Gown:* A black silk gown.

*Hood or Tippet* of degree, if any.



*Graduates.**Bachelor of Arts—*

*Cap:* Cloth trencher with black silk tassel.  
*Gown:* Stuff, Oxford or Cambridge pattern.  
*Hood:* Pure white silk, edged with white silk cord.

*Master of Arts—*

*Cap:* Similar to B.A.  
*Gown:* Stuff, Oxford or Cambridge pattern.  
*Hood:* Dark maroon silk.

*Bachelor of Science—*

*Cap and Gown:* Similar to B.A.  
*Hood:* Blue silk edged with yellow silk cord.

12-4-16. *Bachelor of Applied Science—*

As for Bachelor of Science.

2-4-16. *Master of Science—*

*Cap:* Similar to B.A.  
*Gown:* Stuff, Oxford or Cambridge pattern.  
*Hood:* Black silk lined with yellow silk.

*Doctor of Science—*

*Cap:* Cloth trencher with yellow silk tassel.  
*Gown:* Red with yellow facings.

*Bachelor of Engineering—*

*Cap and Gown:* Similar to B.A.  
*Hood:* Light maroon silk edged with black silk cord.

*Master of Engineering—*

*Cap:* Similar to B.A.  
*Gown:* Stuff, same as M.A. gown.  
*Hood:* Yellow silk edged with black silk cord.

*Bachelor of Laws—*

*Cap and Gown:* Similar to B.A.  
*Hood:* Light blue silk edged with black silk cord.

*Doctor of Laws—**Cap:* Cloth trencher with dark blue tassel.*Gown:* Red, with dark blue facings.*Bachelor of Medicine and Bachelor of Surgery (B.S.-Ch.B.)—**Cap and Gown:* Similar to B.A.*Hood:* Black silk edged with red silk cord.*Doctor of Medicine—**Cap:* Cloth trencher with black silk tassel.*Gown:* Red, with black facings.*Warden of the Council—*

2-4-16.

*Cap:* Black cloth trencher with black silk tassel.*Hood:* Hood of Degree, if any.*Gown:* Silk, Oxford or Cambridge B.A. pattern, with a Maltese Cross  $1\frac{1}{4}$  inches square on each lapel 4 inches below top of shoulder.*Member of Council.*

12-4-16.

*Cap:* Black cloth trencher with black tassel.*Gown:* Stuff, Oxford or Cambridge B.A. pattern, with a strip of cardinal red velvet 2 inches wide and 4 inches long across each lapel 4 inches below top of shoulder.*Diploma of Education.**(If a graduate.)**Cap and Gown:* Similar to B.A.*Hood:* As for B.A., with an addition of red silk cord edging.*Undergraduates.**Scholars—**Cap:* Black cloth trencher with black tassel.*Gown:* Stuff, similar to Sydney Scholar's gown.*Other matriculated persons—**Cap:* Black cloth trencher with black tassel.*Gown:* Stuff, similar to Sydney gown.

*Superior Officer not being a Graduate.*

11-6-13.

*Cap:* Cloth trencher with black silk tassel.*Gown:* A black silk gown of the description worn by civilians not holding degrees.

The term "superior officer" shall be taken to include the University Solicitor, the University Organist, the Chief Clerk and Accountant, and such other officers of the University as the Senate may from time to time determine.

12-4-16.

*Diploma in Mechanical and Electrical Engineering.**Students—**Cap:* Black cloth trencher with black tassel.*Gown:* Similar to Oxford Commoner's gown.*Holders of Diploma—**Cap:* Similar to student's cap.*Gown:* Similar to student's gown, with addition of yellow silk shoulder straps.*Janitor.**Cap:* Black cloth cap, distinctive pattern, with blue Maltese Cross above peak.*Cap* (to be worn with gown): Velvet cap with blue silk cord.*Gown:* Similar to that worn by vergers.

Academic dress shall be worn by all Undergraduates when attending lectures or within University precincts, and at all University ceremonials. This rule may be relaxed by any Faculty, except as to University Ceremonials.

**STANDING RULES AND ORDERS OF THE SENATE.**

*Adopted by the Senate, 25th May, 1910.*

*Place of Meeting.*

1. Until the University building is available, the Senate shall meet at a central place in Brisbane.
2. As soon as the University building is available, the Senate shall meet in the University.

*Meetings.*

3. The Senate shall meet on the Friday following the second Wednesday of each month at 2.30 o'clock in the afternoon.
4. If the Chancellor is of opinion that there is not sufficient business to bring before the Senate, he may direct notice to be issued to each Member that the meeting shall for that time lapse. Such notice shall be in writing.
5. The Chancellor may, at any time, convene a special meeting of the Senate, but notice of such meeting shall be given in writing to each Member at least three days before the meeting.
6. Upon the requisition of any five Members, the Chancellor, or in his absence the Vice-Chancellor, or, in the absence of both, the Registrar shall convene a special meeting of the Senate, to be held within fourteen days, and not less than seven days, of the receipt of the requisition. The requisition must set forth fully and clearly the objects for which it is desired the meeting should be convened.
7. At any meeting of the Senate, seven Members shall constitute a quorum.

8. If, after the expiration of half an hour from the time appointed for a meeting, there should not be a quorum present, the meeting shall lapse.

9. The Chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

10. The Senate may adjourn any meeting or debate to a future sitting.

11. The Registrar shall give each Member of the Senate at least three days' clear notice in writing of the date of a meeting, either ordinary or special or adjourned; and he shall prepare under the direction of the Chancellor a Notice-paper of the business of every meeting and issue it with the circular calling the meeting. In the case of ordinary meetings he shall issue with the circular a copy of the Minutes of the previous ordinary meeting and of any adjournment thereof, and of the special meeting if such a meeting has been held since the last ordinary meeting. Every Member of the Senate shall from time to time furnish to the Registrar an address to which all communications may be sent.

12. All the proceedings of the Senate shall be entered in a Minute Book which shall be kept for the purpose; and the names of the Members present at each meeting shall be entered in such Minute Book.

13. Should a Member be absent, without leave obtained from the Senate, from all meetings of the Senate held during a consecutive period of at least six months, the Registrar shall report the fact to the Senate, which in turn shall report the fact to the Secretary for Public Instruction.

#### *Conduct of Business.*

14. The order of business at each regular meeting shall be as follows:—

(a) (i.) Reading, amendment, confirmation, and signature by Chairman of the Minutes of the last meeting.

(ii.) Business arising out of the Minutes.

- (b) Correspondence.
- (c) Questions.
- (d) Reports of Committees.
- (e) Motions on the Notice-paper.
- (f) Other business.

15. All notices of motion must be in writing and duly signed, and must reach the Registrar seven days before the day of meeting. A notice of motion may be given by one Member on behalf of another Member.

16. At special meetings the order of business shall be the special purpose or purposes for which the meeting was called; and no business other than that specified in the notice of a special meeting shall be considered at such meeting.

17. The regular order of business may be suspended at any meeting by a vote of two-thirds of the Members present.

18. Except by permission of two-thirds of the Members present, no Member shall introduce for discussion at a meeting a subject which has not been duly inserted on the Notice-paper for that meeting.

19. A question shall be decided by a show of hands, unless a ballot be demanded by at least three Members. When a question has been decided by show of hands, any Member may require the votes to be given *viva voce* and recorded in detail in the Minutes.

#### *Rules of Debate.*

20. Whenever the Chairman rises during a debate, any Member then speaking or offering to speak shall sit down, and the Chairman shall be heard without interruption.

21. Should the Chairman desire to take part in a debate, he may vacate the Chair and call upon any Member to act as Chairman.

22. Every Member desiring to speak shall rise in his place and address himself to the Chair.

23. When two or more Members rise to speak, the Chairman shall call upon the Member who, in the opinion of the Chairman, first rose in his place.

24. Unless with the consent of two-thirds of the Members present, no Member shall speak twice to a question before the Senate except in explanation or reply; but a Member who, without debate, seconded a motion or amendment shall not be deemed to have spoken.

25. A reply shall be allowed to a Member who has made a substantive motion, but not to any Member who has moved an amendment.

26. No Member may speak to any question after it has been put by the Chairman and the show of hands or ballot has been taken thereon.

27. In the absence of a Member who has given notice of motion, any Member present may move such motion.

28. A motion may be amended or withdrawn by the mover with leave of the Senate.

29. Any Member proposing an amendment may be required to deliver it in writing to the Chairman.

30. Any motion or amendment not seconded shall not be further discussed, and no entry thereof shall be made on the Minutes.

31. When amendments have been proposed and negatived or withdrawn, the question shall be put as originally proposed.

32. A question may be superseded—

(a) By a motion, "That the Senate proceed to the next business."

(b) By the motion, "That the Senate do now adjourn."

(c) By the Previous Question put in the form, "That this question be not now put" being resolved in

the affirmative. If resolved in the negative, the original question shall be at once put without amendment or further debate. No amendment shall be offered to the Previous Question; nor shall it be moved upon an amendment or in Committee of the Whole. A debate upon the Previous Question may be adjourned. A motion to pass to some other business having been negatived, a motion for the Previous Question shall not be entertained. When the Previous Question is proposed upon a question consisting of a series of resolutions in one motion, the decision of the Previous Question before putting the question on the first of such resolutions shall be conclusive, whether in the affirmative or negative, as regards the whole of such resolutions.

33. A debate may be closed by the motion, "That the question be now put," being proposed, seconded, and carried, which question shall be forthwith put without amendment or debate; but such motion shall not pass in the affirmative unless by a vote of at least two-thirds of the Members present in favour thereof.

34. So soon as a debate upon a question shall be concluded, the Chairman shall put the question to the Senate.

#### *Questions.*

35. Questions relating to the affairs of the University may be put to the Chairman, or through the Chairman to any Member, but the Chairman may disallow any question which he thinks should not be put.

36. Matters contained in answers to questions shall not be debated.

#### *Committee of the Whole Senate.*

37. A Committee of the Whole Senate may be appointed by a resolution, "That the Senate do now resolve itself into a Committee of the Whole."



38. The Chancellor shall be Chairman of such Committee unless he be unwilling to act, in which case any other Member may be voted to the Chair.

39. When the matters referred to the Committee have been disposed of, the Senate shall resume, and the report of the Committee shall be proposed to the Senate for adoption.

40. When the matters so referred have not been disposed of, the Senate having resumed and having received a report of the Committee to the effect that the matters have not been fully disposed of, may appoint a future day for the Committee to sit again.

41. A member may speak more than once on any question.

42. A motion need not be seconded.

43. The Chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

*Select Committees.*

44. The Senate may refer any matter to a Select Committee.

45. Select Committees, unless it be otherwise determined by the Senate, shall consist of five Members. Select Committees shall elect their own Chairman, and three Members shall form a quorum.

46. The Chairman shall have a vote, and, in the case of an equality of votes, a second or casting vote.

47. The Report of a Select Committee shall be in writing, signed by the Chairman, and presented to the Senate by him.

*General.*

48. Should questions which are not dealt with in these Standing Orders arise, either at an ordinary, or a special, or

an adjourned meeting, or in Committee of the Whole Senate, the decision of the Chairman shall be final; but in all cases not specially provided for by these Standing Orders resort shall be had to the then existing Standing Orders of the Legislative Council of Queensland, which shall be followed and observed so far as the same can apply to the proceedings of the Senate.

49. All the powers which are conferred on the Chancellor in these Standing Orders shall, in his absence, vest in the Vice-Chancellor. Should both the Chancellor and Vice-Chancellor be absent from a meeting, such powers shall vest in the Chairman elected by the Members of the Senate present at the meeting.

50. Any of these Standing Orders may be suspended for the time being, on motion made with or without notice, provided that such motion shall have the concurrence of an absolute majority of all the Members of the Senate.

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**REGULATIONS FOR THE CONDUCT OF THE BUSINESS  
OF THE COUNCIL OF THE UNIVERSITY.**

*Place of Meeting.*

1. The Council shall meet in the University of Queensland, or at such other place as the Warden shall direct.

*Meetings.*

2. The Council shall meet at such times as the Warden shall direct.

3. Upon the written requisition of 10 members of the Council, the Warden, or in his absence the Registrar, shall convene a special meeting of the Council, to be held within fourteen days, and not less than seven days, of the receipt of the requisition. The requisition must set forth fully and clearly the objects for which it is desired the meeting should be convened.

4. At any meeting of the Council, 15 members shall constitute a quorum.

5. If, after the expiration of half an hour from the time appointed for a meeting, there shall not be a quorum present, the meeting shall lapse for that day, but those present may adjourn the meeting to such time as they think fit; notice of such adjournment shall be given in the manner hereinafter provided.

6. The Warden shall preside at all meetings of the Council. In his absence the members present shall elect a Chairman for that meeting, and such Chairman shall have all the powers vested by these Regulations in the Warden.

7. The Warden shall have a vote, and in the case of equality of votes a second or casting vote.

8. The Council may adjourn any meeting or debate to a future sitting.

9. Seven clear days' notice in writing shall be given to each member of the Council of the date of a meeting, either ordinary, or special, or adjourned; together with a notice paper of the business to be conducted at that meeting.

10. All the proceedings of the Council shall be entered in a Minute Book which shall be kept for that purpose.

*Conduct of Business.*

11. The order of business at each ordinary meeting shall be as follows:—

- (a) (i.) Reading, amendment, confirmation, and signature by the Warden of the Minutes of the last meeting;
- (ii.) Business arising out of the Minutes;
- (b) Correspondence;
- (c) Questions;
- (d) Report of Committees;
- (e) Motions on Notice Paper;
- (f) Other business.

12. All notices of motions must be in writing, and duly signed, and must reach the Registrar at least one clear day before the day of the ordinary meeting. A notice of motion may be given by one member on behalf of another member.

13. At special meetings the order of business shall be the special purpose or purposes for which the meeting was called; and no business other than that specified in the notice of the special meeting shall be considered at that meeting.

14. The regular order of business may be suspended at any meeting by a vote of two-thirds of the members present.

15. The Warden shall have full power and authority to preserve order at any meeting.

*Rules of Debate.*

16. Whenever the Warden rises during a debate, any Member then speaking or offering to speak shall sit down, and the Warden shall be heard without interruption.

17. Every Member desiring to speak shall rise in his place, and address himself to the Warden.

18. When two or more Members rise to speak, the Warden shall call upon the Member who, in the opinion of the Warden, first rose in his place.

19. Unless with the permission of the Warden no

Member shall speak twice to a question before the Council, except in explanation or reply; but a Member who, without debate, seconded a motion or amendment shall not be deemed to have spoken.

20. A reply shall be allowed to a Member who has made a substantive motion, but not to any Member who has moved an amendment.

21. No Member shall speak to any question after it has been put by the Warden and the show of hands or ballot has been taken as hereinafter prescribed.

22. In the absence of a Member who has given notice of a motion, any Member present may move the motion.

23. A motion may be withdrawn or amended by the mover with the leave of the Council.

24. Any Member proposing an amendment may be required to deliver it in writing to the Warden.

25. Any motion or amendment not seconded shall not be further discussed, and no entry thereof shall be made in the Minutes.

26. When amendments have been proposed and negatived or withdrawn, the question shall be put as originally proposed.

27. A debate may be closed by the motion, "That the question be now put," being proposed, seconded, and carried, which question shall be forthwith put without amendment or debate; but such motion shall not pass in the affirmative unless by a vote of at least two-thirds of the Members present in favour thereof.

#### *Voting.*

28. Any of these Rules of debate may be suspended for the time being, on motion made with or without notice, provided that such motion shall have the concurrence of two-thirds of the members of the Council present.

29. Every question shall be decided by a show of hands unless a ballot be demanded by at least two members, whereupon a ballot shall be held in the usual way. The Warden shall appoint two members to be managers and scrutineers of the Ballot.

*Questions.*

30. Questions relating to the affairs of the Council, or to matters of interest to the Council, may be put to the Warden, or through the Warden, to any Member but the Warden may disallow any question which he thinks should not be put.

31. Matters contained in questions shall not be debated.

*Select Committees.*

32. The Council may refer any matter to a Select Committee.

33. Select Committees unless it be otherwise determined by the Council shall consist of five Members. Select Committees shall elect their own Chairman, and three Members shall form a quorum.

34. The Chairman shall have a vote, and in the case of an equality of votes a second or casting vote.

35. The Report of a Select Committee shall be in writing, signed by the Chairman, and presented to the Council by him.

*General.*

36. Should questions which are not dealt with in these Regulations arise at any meeting the decision of the Warden shall be final.

37. No Regulation shall be amended or rescinded except upon seven days' notice of motion of the intended amendment or rescission being given and circulated with the notice paper of the business to be conducted at that meeting; and unless such motion shall have been passed by an affirmative vote of two-thirds of the members of the Council present.

38. Emergent business not affecting the Regulations may be taken at any time with the unanimous consent of the meeting.

**LIBRARY.**

## RULES.

1. The Library of the University of Queensland is divided into—

- (a) General and Arts Library;
- (b) Departmental (Science) Libraries.

The latter will, as accommodation is provided, be stored in the buildings of the Scientific Departments.

2. The Libraries are for the use of all Members of the University.

3. The General Library will be open during Term—

On Saturdays, 10 a.m. to 12.30 p.m.

Other week days, 9 a.m. to 5 p.m., 7 to 9 p.m.

Departmental Libraries will be open at the same time as the above so far as is compatible with the working of the Department and with the provision of reading-rooms in each Department.

17-4 12. 3A. The hours at which books may be borrowed shall be from 12 noon to 1 p.m., and from 2.30 p.m. to 3.30 p.m. Evening Students may apply to members of the Staff in Evening Lectures for books which they desire to borrow.

In Vacation the Libraries shall be open as required.

4. No book may be taken from the General or Departmental Libraries except as set forth under the Rules for borrowing.

*Borrowing.*

9-7-13. 13-7-17. 5. (a) Books may be borrowed by Members of the Senate, Professors, and Lecturers, Heads and Members of the Staffs of Recognised Colleges and of the Teachers' Training College who are Members of the University, Superior Officers of the University, and by Undergraduates attending the regular courses of the University without

charge or subscription, and by Graduates who are proceeding to another degree or who are engaged in approved research work on payment of a subscription of one guinea a year. External Students shall not have the right to borrow books from the Library.

(b) The following are authorized to give out books to borrowers:—

For the General Library, THE LIBRARIAN AND ASSISTANT.

For the Departmental Books, THE PROFESSOR OR LECTURER IN CHARGE OF THE DEPARTMENT OR HIS AUTHORISED DEPUTY.

(c) Borrowers shall fill in and sign a borrowing slip of the form attached for each book required, and shall hand this to the proper authority specified in Rule 5 (b), who will countersign the slip before he gives out the book, and retain it as a receipt, sending the countersign to the Main Library.

(d) When books are returned, the borrowing slip shall be cancelled and returned to the Librarian.

(e) No books may be kept for more than the time noted on the slip, but, if not required by another Student, may be taken out again by the same borrower on fresh application as above.

(f) Borrowers will be held responsible for loss of books or damage.

(g) If a book is already out when required by a Student, the signing of a borrowing slip shall establish for that Student a prior claim for that book so soon as it is returned.

(h) Professors and Lecturers may have out not more than eight volumes at a time; other readers not more than three volumes.

(i) At the discretion of the Librarian or of Heads of Departments, certain books and periodicals may be noted as "Not to be borrowed."



(j) All books shall be returned to the Library on or before the first day of the Annual Examinations, and at other times upon a week's notice being given by the Librarian.

(k) Long vacation—

(i.) During long vacation Students resident in Brisbane and suburbs may borrow books in the same way as above described;

(ii.) Students resident at a distance may take six volumes away with them on complying with Rule 5 (c), and must return them carefully packed by post or passenger train at their own expense within twenty-eight days, and may receive another parcel of six volumes from the University at their own expense;

(iii.) In case the same book is required by more than one Student, the Senior Member of the University shall have the prior right;

(iv.) All books lent out at any time during the long vacation may be kept by the borrower not later than the first day of the Supplementary Examinations.

(l)—

14-5-18.

(i.) No volume shall be kept for more than seven days unless special permission is given by the Librarian at the time of borrowing;

(ii.) Books for which an extension of time has been granted may, notwithstanding such permission, be recalled at any time after seven days, and then must be returned at once;

(iii.) For any volume kept longer than the time allowed, a fine of 1s. a week or portion of a week shall be incurred by the borrower;

(iv.) A list of fines incurred shall be posted in the Library, and notice thereof sent to the person incurring the fine and to the Registrar;

- (v.) Fines must be paid to the Registrar within seven days of the date of posting, and, until they are paid, the offender will not be allowed to make use of the Library;
- (vi.) When a notice is issued for a general return of books to the Library, the detention of books named in such notice shall render the offender liable to fines at double the rate mentioned in (iii.).

Any infringement of these Rules shall be reported to the Library Committee, who shall deal with the offender at their discretion.

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**GENERAL RULES.***Passed by the Senate on 11th December, 1912.***I.—ACADEMIC YEAR.**

1. The Academic Year shall consist of three Terms and two Examination Periods, exclusive of the period occupied by Public and other Examinations not mentioned hereunder.

**II.—TERMS.**

8-9-15. 2. The Terms shall commence on the Eleventh, Twenty-second, and Thirty-fourth Tuesdays in the year respectively, and each term shall end on the Tenth Saturday after its commencement.

**III.—EXAMINATION PERIODS.**

3. The first Examination Period shall commence on the Ninth Tuesday in the year and shall continue for two weeks. The second Examination Period shall commence on the Forty-fourth Tuesday and shall extend over a period of not more than three weeks.

4. During the first Examination Period the following Examinations shall be held:—

- (a) The Matriculation Examination.
- (b) The Supplementary Annual Examination.
- (c) The Examination for Graduation with Honours.
- (d) The Examination for Higher Degrees.

5. During the second Examination Period the following Examinations shall be held:—

- (a) The Annual Examination for Degree Courses.
- (b) The Final Examination for Graduation for the Pass Degree.

**IV.—SUPPLEMENTARY EXAMINATION.**

6. Candidates who have failed in not more than two subjects at the Annual Examinations may present themselves for a Supplementary Examination in the March following.

7. Candidates who have failed in more than two subjects in the Annual Examinations cannot present themselves at the Supplementary Examination without the express permission of the Faculty.

## V.—EXAMINATION RESULTS.

8. A list of Candidates who have passed in any subject of Examination shall be drawn up by the Examiner or Examiners. Such list, attested by the signatures of the Examiner or Examiners, shall be forwarded to the Registrar and posted up by him.

9. All Examiners' Returns shall be forwarded to the Registrar and retained in his custody. All these returns shall be by him entered in the University books, and from them he shall compile and enter lists of successful Candidates. The names of Candidates who have completed their respective years, together with the Class Lists, shall be published without delay after the last necessary return has been received by the Registrar, and shall be laid before the Senate at its next meeting.

## VI.—CLASS LISTS.

10. In the Faculty of Arts and Engineering a pass in each subject may be graded as "pass" and "pass with merit," except that in the Faculty of Arts a "pass with merit" will not be given to candidates for Honours in the final year of their course. In the Faculty of Science a "pass with merit" may be given in the first two years only of the course. 20-8-18.

## VII.—TIME TABLES.

11. The Time Tables of Lectures in the various Faculties shall be in the hands of the Registrar in each year not later than the Saturday immediately preceding the commencement of the First Term.

12. The Time Table of Examinations shall be in the hands of the Registrar not less than three weeks before the commencement of either Examination Period.

## VIII.—ENTRIES.

13. All entries, whether for Lectures or Examinations, shall be made on forms provided for the purpose.

14. Students must enter for courses in the various Faculties not later than the Monday\* immediately preceding the first day of the First Term.

15. Except in special cases, candidates entering after this date shall be required to pay a late entrance fee of 5s.

14-12-17 16. Candidates for the Annual Examination in November, or for the Honours Examination in March, or for Examination for admission to higher degrees, shall lodge their entries with the Registrar on or before the 30th September preceding such Examination.

Candidates desiring to proceed to higher degrees, who are qualified to do so without further examination, shall lodge with the Registrar on or before the 30th September preceding an application for exemption from further examination in connection with such higher degree.

Candidates desiring to present theses for higher degrees must notify the Registrar on or before the 30th September preceding of their intention of presenting such theses in the following March.

Candidates who fail at the Annual Examination in November, and who desire to sit for a Supplementary Examination in March, shall lodge with the Registrar not later than the 15th December preceding their entries for such Supplementary Examination, together with the duplicate deposit slip for the prescribed Supplementary Examination fee of £2 2s.

17. Unless otherwise provided, Candidates for examination for any special prize or scholarship shall lodge their entries for the same with the Registrar not less than fourteen days before the commencement of the examination for that prize or scholarship.

18. No entry shall be accepted until the prescribed fees have been paid.

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\* NOTE.—This rule is mandatory, and will be strictly enforced. The Professors will be in attendance at the University previous to the commencement of Term to facilitate compliance with the Rules. Reference should be made to the Handbook of the University.

## IX.—FEES.

*(a) Lecture and Laboratory Work.*

19. All fees for lectures shall be paid in advance, either annually in one sum or in three equal instalments. Annual payments must be made not later than the Tuesday preceding the beginning of the first term. Final instalments must be paid not later than the Tuesday preceding the beginning of each Term.

20. No student shall be entitled to have his name enrolled on the roll of any class in any subject until he has paid the prescribed fees for that subject.

*(b) Apparatus.*

21. Students are not required to provide their own apparatus for the laboratory courses. Apparatus will be provided by each Department to the students working in that Department.

22. Students attending the laboratories must pay a deposit of £2 2s. at the beginning of each of the first three years of their course.

23. On the completion of his work in any Department each student will be charged with all breakages of apparatus and apparatus returned by him insufficiently cleaned. The sums thus due to each Department will be deducted from the deposit, and the balance returned to the student on the completion of his laboratory work.

24. The amount due to each Department shall be certified to by the Head of that Department.

25. A limited number of microscopes are provided by the Departments of Geology and Biology, which will be lent to students upon payment of £1 1s. per annum.

## X.—COURSES OF LECTURES.

26. Unless otherwise resolved by the Faculty concerned, a course of lectures in any subject shall consist of two lectures per week during the three Terms of the Academic Year.

## XI.—GENERAL.

27. Nothing in these Rules contained shall be construed <sup>20-8-11</sup> to prevent any Faculty from holding any examination on any subject or subjects at such time as such Faculty may think fit.

**MATRICULATION.**

## STATUTE RELATING TO MATRICULATION.

1. Subject to the provisions concerning admission *ad eundem statum* and to the power of the Senate to grant exemption in any individual case, every person not being less than sixteen years of age, who has fulfilled the prescribed conditions for Matriculation in any of the Faculties within the University, and who, in the presence of the Registrar or other person appointed by the Senate for the purpose, signs his name in the Matriculation Book, either personally or by his agent duly authorised in writing, and makes the declaration hereinafter set forth, shall become an undergraduate member of the University.

The declaration shall be in the following form:—

“I hereby solemnly promise that I will obey the Statutes of the University of Queensland so far as they may apply to me, and that I will submit respectfully to the Constituted Authorities of the University.”

2. Undergraduates who have been admitted to the studies of any Faculty are deemed to be Students of that Faculty.

## RULES.

16 12-14. 1. In order to qualify for matriculation, candidates must pass in a selection of subjects at the Public Examinations held annually by the University. The ordinary examinations will be held in November-December, and there will also be a Supplementary Matriculation Examination in March.

2. Candidates may pass their Matriculation Examination in two sittings,\* provided that they secure or have secured a pass in at least four subjects at some one Senior Public Examination.

3. The Examination in March will be used only for the completion of Matriculation requirements.

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\* The Examination in November and the Supplementary Examination in March are regarded as constituting one sitting under this Rule.

4. Passes in Public Examinations of the Universities of Adelaide, Melbourne, and Sydney will receive the same credit as those gained at corresponding examinations of the University of Queensland.

5. Candidates may qualify for matriculation in the Scholarship Examination provided that they show proficiency in the subjects required for matriculation.\*

6. The requirements of the several Faculties are as follows:—

FACULTY OF ARTS.

1. The Subjects of the Examination shall be:—

(i.) *Compulsory*—

- (a) English;
- (b) Latin or Greek;
- (c) Mathematics A.

(ii.) *Optional*—

- (a) Latin or Greek (that one not taken as a compulsory subject);
- (b) French;
- (c) German;
- (d) History (Ancient);
- (e) History (Modern);
- (f) Logic;
- (g) Mathematics B;
- (h) Chemistry or Physics or Geology or Biology.

2. Every candidate shall pass in at least four Senior subjects, which must include English and one other subject

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\* Candidates are warned that it will naturally be more difficult to secure a pass for matriculation purposes by the use of the Scholarship Examination than by the use of the Senior Examination.



from the compulsory group: provided that if the remaining subject of the compulsory group is not taken at Senior Standard, it must be passed at an Approved Intermediate Standard.\*

3. The whole of the subjects required for Matriculation must be passed in not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate who has matriculated in the Faculties of Science or Engineering shall be deemed to have matriculated in the Faculty of Arts if he has passed, or, on passing, in Latin or Greek at Intermediate Standard.

#### FACULTY OF SCIENCE.

##### I. The Subjects of the Examination shall be:—

###### (i.) *Compulsory*—

- (a) English;
- (b) Mathematics A;
- (c) One Science subject (Chemistry, Physics, Geology, or Biology);
- (d) French or German.

###### (ii.) *Optional*—

- (a) Latin;
- (b) Greek;
- (c) French or German (that one not taken as a compulsory subject);
- (d) Modern History;
- (e) Ancient History;
- (f) Logic;
- (g) Mathematics B;
- (h) Chemistry;
- (i) Physics;
- (j) Geology;
- (k) Biology;
- (l) Geography.

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\* For Approved Intermediate Standard in Latin and Mathematics, see Manual of Public Examinations, 1917-18.

2. Every candidate shall pass in at least four Senior subjects, which must include English, Mathematics A, and one Science subject: provided that either French or German, if not included in the Senior subjects, must be passed at an Approved Standard.

NOTE.—The Junior Public Examination Standard in French and German has been adopted as the Approved Standard under this rule.

3. The whole of the subjects for Matriculation must be passed in not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate who has matriculated in the Faculty of Arts shall be deemed to have matriculated in the Faculty of Science on passing in all the prescribed subjects or on completing his first year of Arts. Any candidate who has matriculated in the Faculty of Engineering shall be deemed to have matriculated in the Faculty of Science.

#### FACULTY OF ENGINEERING.

1. The Subjects of the Examination shall be:—

(i.) *Compulsory*—

- (a) English;
- (b) Geography;
- (c) Mathematics, as required for Engineering;\*
- (d) Physics.

(ii.) *Optional*—

- (a) Latin;
- (b) Greek;
- (c) French;
- (d) German.

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\* That is, Mathematics A and Mathematics B, excluding Mechanics.

2. Every candidate shall pass in the compulsory subjects at Senior standard, and in one optional subject at an Approved Standard.\*

3. The whole of the subjects required for Matriculation must be passed at not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate in the Faculty of Arts who has passed the first year of Arts shall be deemed to have matriculated in the Faculty of Engineering if he has passed in Pure Mathematics, Part I.

5. Any candidate in the Faculty of Science who has passed the first year of Science shall be deemed to have matriculated in the Faculty of Engineering if he has passed in Applied Mathematics, Part I.

NOTE.—When passed at one sitting, the Examination forms a qualification recognised by the Institution of Civil Engineers as exempting from its Preliminary Examination for those seeking admission to Studentship of the Institution.

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\* For Latin, Greek, French, and German, see Manual of Public Examinations, 1917-18.

**GRADUATION IN THE FACULTY OF ARTS.**

## DEGREE OF BACHELOR OF ARTS.

STATUTE RELATING TO THE DEGREE OF  
BACHELOR OF ARTS.

1. Candidates for the Degree of Bachelor of Arts shall be matriculated students of the Faculty of Arts. They shall attend lectures and pass annual examinations in Subjects comprised in a course of study extending over not less than three completed academical years. No candidate may present himself for examination in any year until he has satisfied the requirements of the preceding year or years.

2. Candidates for the Degree of Bachelor of Arts who are able to attend Evening Classes only may be permitted to extend their course of study over a period of five years.

3. Except in such cases as the Senate may otherwise determine, a statutory declaration by a candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years.

## RULES.

## (I.)—BACHELOR OF ARTS.—PASS DEGREE.

*Scheme of Study.*

1. Subjects selected from the following Groups shall be studied by candidates for the Degree; and the study of the selected subjects shall extend over a period of three completed academical years:—

- (A) Latin (Part I., Part II.), Course i.; Greek (Part I., Part II.), Course ii.

- (B) English (Part I., Part II.), Course iv.; French (Part I., Part II.), Course v.; German (Part I., Part II.), Course vi.
- (C) British History (Part I., Part II.), Course vii.; Constitutional History, Course viii.; Ancient History, Course iii.; Economics, Course ix.; Political Science, Course x.
- 11-12-12. (D) Logic and Psychology (Part I., Part II.), Course xi.; Ethics and Metaphysics, Course xii.; Education, Course xiii.
- (E) Pure Mathematics (Part I., Part II.), Course xiv.; Applied Mathematics (Part I., Part II.), Course xv.
- 18-9-12. (F) Biology (Part I.), Courses xvi., xvii.; Chemistry (Part I.), Course xviii.; Geology and Mineralogy (Part I.), Course xix.; Physics (Part I.), Course xx.
- 11-12-12. Candidates selecting French or German as Subjects for their course must pass a compulsory dictation and composition test before commencing the study of these Subjects unless they have passed in the Subject or Subjects selected at the Senior Public Examination.
- 18-9-12. Candidates selecting Latin or Greek or Mathematics, Pure and Applied, as subjects of their course shall satisfy the Professor or Lecturer in Charge that they are able to proceed with the work.
- 10-7-12. 2. A full year's work in any Subject shall constitute a Part thereof. A Part of any Subject, or a Subject consisting of one Part only, shall represent one unit of study for the Degree. In certain specified Subjects the work of a Part may be distributed over two consecutive years.
- 8-10 13. 3. The Subjects set out in the foregoing list shall be studied in one or in two Parts. No candidate shall proceed to the study of the second Part of any Subject until he has passed in the first Part of that Subject.
4. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examination prescribed for that Subject or Part of a Subject.

5. Candidates shall pass in at least six Subjects, of which three at least must be studied in two Parts for two years, thereby securing nine units of credit for the Degree, provided that—

- (a) Not less than two Subjects are taken from Groups A and B together;
- (b) Not less than one Subject is taken from Group C;
- (c) Not less than one Subject is taken from Group D;
- (d) Not less than one Subject is taken from Groups E and F together;
- (e) Not more than two Subjects are taken from Group F.

The Subjects may be selected by the candidate; but the selection must be approved by the Chairman of the Faculty. Candidates must submit their selection of Subjects to the Chairman of the Faculty before the end of the first week of the first term of each year.

#### FIRST YEAR.

6. Candidates during the first year of their course shall pass in at least three Subjects selected and approved as aforesaid; but not more than one Subject may be selected from Group F.

The following Subjects may not be taken in the first year:—

- Economics, Course vii.;
- Constitutional History, Course viii.;
- Ethics and Metaphysics, Course xii.;
- Education, Course xiii.

Candidates who have fulfilled the foregoing conditions ~~11-12-12~~ shall thereby complete their first year.

#### SECOND YEAR.

7. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in at least three Subjects selected and approved as aforesaid, thereby completing their second year.

The following Subject may be taken in the second year ~~20-0-16~~ only:—

- Political Science, Course x.

The following Subject may not be taken until a Pass has been obtained in Logic and Psychology, Part I. :—

Education, Course xiii.

#### THIRD YEAR.

8. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in at least three Subjects selected and approved as aforesaid, thereby completing their third year.

The following Subject may not be taken till the third year :—

Constitutional History, Course viii.

9. Candidates who have completed their third year may be admitted to the Degree of Bachelor of Arts.

16-9-12. 10. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects or Parts of Subjects which have been studied by the candidate in that year.

#### *Evening and External Students.*

11. Notwithstanding anything to the contrary contained herein, candidates for the Degree of Bachelor of Arts who are able to attend evening classes only, may, in any year of their course, obtain credit for not less than two Subjects or Parts of Subjects in which they have passed.

12. External students—that is to say, candidates for the Degree of Bachelor of Arts who have been exempted from attendance at lectures for all the Subjects of any year—may be allowed credit in that year for not less than two Subjects or Parts of Subjects in which they have passed.

13. Candidates who, as evening or external students, have obtained eight units of credit may be admitted to the Degree of Bachelor of Arts on passing in the one Subject or Part of a Subject necessary to complete the nine units of credit required for the Degree.

## (II.)—BACHELOR OF ARTS WITH HONOURS.

1. The Degree of Bachelor of Arts with Honours may be taken in any of the following Groups:—

- (A) Classics;
- (B) Modern Languages and Literature;

NOTE.—Candidates for Honours in this Group must select one of the three following Groups:—(a) English-French; (b) English-German; (c) French-German.

- (C) History and Economic Science;
- (D) Mental and Moral Philosophy;
- (E) Mathematics.

2. Every candidate shall pass in at least two Subjects <sup>18-9-12.</sup> outside his Honours Group. Candidates shall study and pass either in one Subject for one year, and one Subject in two Parts for two years, or in three Subjects, two of which must be cognate, for one year each, according as is prescribed in Rule 4 for each Group severally. Students shall in each year submit their selection of Subjects for that year to the Chairman of the Faculty, as is prescribed in Rule 6 for the Pass Degree.

3. The examination in the Subjects comprised in the candidate's Honours Group shall be on a higher standard than that required for the Pass Degree. In his other Subjects the standard shall be that required for the Pass Degree.

4. In the choice of Subjects outside the Honours Group, the following restrictions are imposed:—

- (A) *Classics*.—Logic and Psychology, Ethics and Metaphysics, and one other Subject.

NOTE.—Ancient History is not regarded as an outside Subject.

- (B) *Modern Languages and Literature*.—Latin or <sup>18-9-12.</sup> Greek, or a Subject from Group B, not included in the Honours Group, and one Subject from Group C or Group D. The Subject from Group B shall not be studied for more than one year.

- (C) *History and Economic Science*.—Ethics and Metaphysics, and one language other than English.



(D) *Mental and Moral Philosophy*.—Economics, and one language other than English.

(E) *Mathematics*.—Any two Subjects selected from Groups A, B, C, D.

5. During the first two years of his course each candidate shall pass the annual examination as prescribed for the Pass Degree.

6. During the third year each candidate shall do such work and attend such lectures in the Subjects of his Honours Group as is prescribed in each case.

7. Any candidate may present himself for his Honours Examination at any time not less than one nor more than two and a-half years after the completion of the second year of his course; but the candidate, before presenting himself for the Honours Examination, shall have attended, and done the work of, at least, five full courses of lectures in the Subjects of his Honours Group, and shall have passed in Subjects outside his Group as prescribed in Rules 2 and 3 above.

11-12-12. 8. Any candidate who has obtained Honours in any one Group may, on attending and doing the work of two full courses of lectures in the Subjects of a second Honours Group, present himself for examination in such second Honours Group in the next succeeding year.

9. A candidate who has graduated previous to taking his Honours Examination may have the details of his Honours entered on his Degree Certificate.

10. In each Group there shall be three Grades of Honours, to be denominated respectively the First, Second, and Third Class. The names in each Class shall be published in alphabetical order.

11. A candidate who has failed to obtain Honours may, at the discretion of the Faculty, be recommended for the Pass Degree.

12. Notwithstanding anything to the contrary contained herein, candidates who are unable to attend lectures during the day may present themselves for their Honours Examination at any time not less than one and not more than three and a-half years after the completion of the second year of their course.

STATUTE RELATING TO THE DEGREE OF  
MASTER OF ARTS.

1. The Degree of Master of Arts may be taken in any one or more of the following groups:—

- (a) Classics;
- (b) Modern Languages and Literature;
- (c) History and Economic Science;
- (d) Mathematics;
- (e) Mental and Moral Philosophy.

2. Candidates shall be Bachelors of Arts of at least two years' standing.

3. Candidates shall present themselves for examination, and shall submit a thesis in such group or groups as they may select. The subject of the thesis may be chosen by the candidate, but must be approved by the Faculty.

*Except that—*

4. Candidates who have obtained the Degree of Bachelor of Arts with First or Second Class Honours in one or more groups may, in the corresponding group or groups for the Master of Arts Degree, obtain such degree without further examination solely on submitting a thesis of sufficient merit. Candidates may be required to submit to oral examination on the subject of their thesis.

5. The candidate shall consult the Chairman of the Faculty as to the choice of subjects for his thesis at least six months before the date of examination for the degree.

## RULE.

1. The examination in each group shall be of the same scope as that for the Final Honours Examination for the Bachelor of Arts Degree in that group. A standard equal to that required for Second Class Honours will be expected from candidates. 15-5-14.

2. Candidates must enter for or claim exemption from the examination as prescribed in the General Rules, and pay the prescribed fee. 14-12-17.

3. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.

**GRADUATION IN THE FACULTY OF SCIENCE.**

## DEGREE OF BACHELOR OF SCIENCE.

STATUTE RELATING TO THE DEGREE OF  
BACHELOR OF SCIENCE.

1. Candidates for the Degree of Bachelor of Science shall be matriculated students in the Faculty of Science, and shall attend lectures and practise laboratory work and pass examinations comprised in a course of study extending over not less than three completed academical years. No candidate shall present himself for examination in any year until he has satisfied the requirements of the preceding year.

2. Candidates for the Degree of Bachelor of Science who are able to attend evening classes only may be permitted to extend their studies over a period of six years.

3. Except in such cases as the Senate may otherwise determine, a statutory declaration by the candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years. Such candidates may not present themselves for examination until they have submitted satisfactory evidence of having performed the prescribed laboratory work either in the University or in some institution recognised by the University for this purpose.

## RULES.

## (I.)—BACHELOR OF SCIENCE.—PASS DEGREE.

*Scheme of Study.*

1. Subjects selected from the following list shall be studied by candidates for the Degree, and the study of the selected subjects shall extend over a period of three completed academical years:—

(A) Pure Mathematics, Part I., and Part II.,  
Course xiv.;

- (B) Applied Mathematics, Part I., and Part II., Course xv.;
- (C) Biology, Part I., Part II., and Part III., Courses xvi. and xvii.;
- (D) Chemistry Part I., Part II., and Part III., Course xviii.;
- (E) Geology and Mineralogy, Part I., Part II., and Part III., Course xix.;
- (F) Physics, Part I., Part II., and Part III., Course xx.

2. A full year's work in any Subject shall constitute a Part of that subject.

3. The Subjects set out in the foregoing list shall be studied in one or in two or in three Parts. No candidate shall proceed to the study of a higher Part of any Subject until he has passed in the preceding Part or Parts of that Subject.

4. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examinations prescribed for that Subject or Part of a Subject.

5. All candidates, except those taking the Courses set out in paragraph 10, shall pass in the following compulsory Subjects:—

- Pure Mathematics, Part I.;
- Such portions of Pure Mathematics, Part II., as may be prescribed for students in the various schools in the Faculty of Science;
- Chemistry—Part I.;
- Inductive Logic in its application to Science.

6. All such candidates shall pass in three Subjects selected from the following:—

- Biology;
- Chemistry;
- Geology and Mineralogy;
- Physics;
- Applied Mathematics:

Provided that—

One Subject is studied in one Part;

One Subject is studied in two Parts; and that at least

One Subject is studied in three Parts.

The Subjects may be selected by the candidate; but the selection must be approved by the Chairman of the Faculty. Candidates must submit their choice of Subjects for approval to the Chairman of the Faculty during the first week of the first term.

#### FIRST YEAR.

7. During the first year of their course candidates shall pass in—

Pure Mathematics, Part I., Course xiv.; and

Chemistry, Part I., Course xviii.;

and in the first Parts of two Subjects selected from the following:—

Applied Mathematics, Course xv.;

Biology, Courses xvi. and xvii.;

18-9-12. Geology and Mineralogy, Course xix.;

Physics, Course xx.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

#### SECOND YEAR.

8. Candidates who have completed their first year may proceed to the work of the second year of their course. Such candidates shall pass in such portions of Pure Mathematics, Part II., as may be prescribed, and in the second Parts of two other Subjects which have been studied by the candidate in his first year.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

#### THIRD YEAR.

18-9-12. 9. Candidates who have completed their second year may proceed to the work of the third year of their course. Such candidates shall pass in Inductive Logic in its application to Science, and either in one of the two following subjects:—

(a) Chemistry III., Course xviii.;

(b) Physics III., Course xx.;

or in one of the three following groups:—

- (c) Biology III., Courses xvi. and xvii., with portions of Chemistry III., Course xviii., or of Physics III., Course xx.
- (d) Geology III., Course xix., with portions of Chemistry III., Course xviii., or of Physics III., Course xx.;
- (e) Biology III., and Geology III.

Candidates taking any of the composite courses (c), (d), or (e) must state what subject is to be their major subject.

10. As an alternative to any one of the above Courses 12-4-16, candidates may take the following Course:—

*First Year.*—

Pure Mathematics, Part I., Course xiv. ;  
 Chemistry, Part I., Course xviii. ;  
 Biology, Part I., Courses xvi. and xvii. ;  
 Geology and Mineralogy, Part I., Course xix.

*Second Year.*—

Chemistry, Part II., Course xviii. ;  
 Biology, Part II., Courses xvi. and xvii. ;  
 Geology and Mineralogy, Part II., Course xix.

*Third Year.*—

Biology, Part III., Courses xvi. and xvii. (major subject), with portions of Chemistry, Part III., Course xviii. ; or  
 Geology and Mineralogy, Part III., Course xix. (major subject), with portions of Chemistry, Part III., Course xviii. ; or  
 Biology, Part III., Courses xvi. and xvii. ; and  
 Geology and Mineralogy, Part III., Course xix. ;

together with the Special Course in Inductive Logic.

Special arrangements are made for the necessary Laboratory work in this Course.

11. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects or Parts of Subjects which have been studied by the candidate in that year.

12. Candidates who have completed their third year may be admitted to the Degree of Bachelor of Science.

13. Evening students who desire to extend their course of study over six years shall during their course pass in all the Subjects or Parts of Subjects prescribed in the foregoing Rules; but no Part of any Subject shall be taken out of its prescribed order. Candidates must not proceed to the study of Physics, Part I., before that of Mathematics, Part I., or proceed to the study of Physics, Part II., before that of Mathematics, Part II. First year evening courses <sup>8-9-15.</sup> in Physics, Chemistry, and Geology and Mineralogy are offered only in alternate years as follows:—

Chemistry and Geology and Mineralogy in 1918,  
1920, and so on;

Physics in 1919, 1921, and so on.

14. Such candidates shall during their first two years pass in at least two Subjects in each year, and the first year's course for the Degree must be completed in these two years.

15. Subject to the limitations imposed in Rules 13 and 14, the remaining Subjects of the Course for the Degree shall be studied by the candidate in such order as the Faculty may determine in each case.

## (II.)—BACHELOR OF SCIENCE WITH HONOURS.

1. The Degree of Bachelor of Science with Honours may be taken in any of the following Subjects:—

Biology;  
Chemistry;  
Geology and Mineralogy;  
Mathematics;  
Physics.

2. Candidates for the Degree may present themselves for examination at any time not less than one and not more than two and a-half years after the completion of the second year of their course.

3. Candidates in the Schools of Biology, Chemistry, <sup>20-8-13.</sup> Geology and Mineralogy, and Physics shall in each year pass in the same Subjects as those required in the corresponding year for the Pass Degree in that School. They shall also do such special work and pass such examinations as may from time to time be prescribed.

4. Candidates in the School of Mathematics shall follow the course hereunder set forth:—

(a) In their first year they shall pass in—

Pure Mathematics, Part I., Course xiv. ;  
Applied Mathematics, Part I., Course xv. ;  
Chemistry, Part I., Course xviii. ;  
Physics, Part I., Course xx.

(b) In their second year they shall pass in—

Pure Mathematics, Part II., Course xiv. ;  
Applied Mathematics, Part II., Course  
xv. ; and  
Chemistry, Part II., Course xvii., or Physics,  
Part II., Course xx.

(c) After completing their second year, candidates may proceed to the work of the final year of their course. In this year and throughout their course, they shall do such special work as may be prescribed, and shall present themselves for their Honours Examination as prescribed in Rule 2.

5. Notwithstanding anything to the contrary contained herein, candidates who are unable to attend the day classes may be permitted to present themselves for their Honours Examination at any time not less than one and not more than three and a-half years after the completion of the second year of their course for the Degree.



DEGREE OF BACHELOR OF APPLIED SCIENCE IN  
CHEMISTRY AND CHEMICAL ENGINEERING.

**The Walter and Eliza Hall School of Applied Chemistry.**

GENERAL STATEMENT.

13-10-15. The Walter and Eliza Hall School of Applied Chemistry has been established by the Walter and Eliza Hall Trustees as a section of the Department of Chemistry in the University of Queensland, to provide for the training of men to take the place in chemical industry that is taken in general engineering work by the graduate of an engineering school.

Students will not be taught the details of the particular industries, but will be trained in the general principles on which industrial processes are based.

It is intended to offer a four-year course in Applied Chemistry, the students being trained in the principles and methods of Chemistry and Engineering, and in the application of these principles to industrial processes and problems.

This course will lead to the Degree of Bachelor of Applied Science, in Chemistry and Chemical Engineering.

This degree will carry with it all the privileges of the Degree of Bachelor of Science.

Students of the School of Applied Chemistry who have completed the third year of the course may be admitted to the degree of Bachelor of Science upon passing in Logic.

It is also hoped to make provision for post graduate and research work in the Applied Chemistry Laboratory.

MATRICULATION REQUIREMENTS.

The Matriculation requirements for entrance to the course in Applied Chemistry in the school are the same as those for the Faculty of Engineering.

All students of the Faculty of Science who have passed in First Year Science shall be deemed to have matriculated for the purposes of the school.

STATUTE RELATING TO THE DEGREE OF  
BACHELOR OF APPLIED SCIENCE IN CHEM-  
ISTRY AND CHEMICAL ENGINEERING.

1. Candidates for the Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering shall attend Lectures and practise Laboratory work and pass four annual examinations in subjects comprised in a course of study extending over four completed academical years.

No candidate may present himself for examination in any year until he has passed the examination of the preceding year.

2. Candidates for the Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering shall, during the long vacation of each year, engage in shop work and industrial work as may be prescribed.

RULES.

BACHELOR OF APPLIED SCIENCE IN CHEMISTRY  
AND CHEMICAL ENGINEERING.

1. Candidates for the Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering shall have fulfilled the Matriculation requirements for the Faculty of Engineering.

2. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory and shop work, and passed the examination prescribed for that Subject or Part of a Subject.

FIRST YEAR.

3. During the first year of their course, candidates shall pass in the following subjects: —

Pure Mathematics, Part I., as prescribed for Students in Engineering, Course xiv. ;

Applied Mathematics, Part I., as prescribed for Students in Engineering, Course xv. ;

Chemistry, Part I., Course xviii. ;

Geology and Mineralogy, Part I., Course xix. ;

Physics, Part I., as prescribed for Students in Engineering, Course xx. ;

Descriptive Geometry, Course xxi. ;

Engineering Drawing and Design, Course xxii.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

#### SECOND YEAR.

4. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for students in Engineering, Course xiv. ;

Chemistry, Part II., Course xviii. ;

Physics, Part II., as for engineers, Course xx. ;

Applied Mechanics, Course xxiii. ;

Heat Engines, Part I., Course xxiv.

During the Vacation, between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

#### THIRD YEAR.

5. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Chemistry, Part III., Course xviii. ;

Economic Geology (One Term), Course xix. ;

Drawing and Design, Part II., Course xxii. ;

Civil Engineering, Part I., Course xxv.

During the vacation between the third and fourth years of their course, candidates shall engage in approved industrial work of a chemical nature.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

#### FOURTH YEAR.

6. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Applied Chemistry;

Electrical Engineering, as prescribed for Students in Civil Engineering, Course xxix.;

Metallurgy and Assaying;

Drawing and Design, Course xxii.;

Candidates must attend the Economics Short Course, Course ix.

During the fourth year, and in the vacation at the end of the fourth year, candidates must prepare a Thesis or Report on some special branch of their work, for submission as part of the Final Examination.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

Candidates who have completed their fourth year and have submitted a satisfactory Thesis or Report may be admitted to the Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering.

7. If a candidate has failed to complete any year of his course, the Faculty of Science in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the subjects of that year.

8. Candidates who can produce evidence of satisfactory practical work in the shop or works covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during vacation.

NOTE.—Candidates are advised to take the course in Building Construction and Architecture at present done in the Central Technical College, Course xxviii.

STATUTE RELATING TO THE DEGREE OF  
MASTER OF SCIENCE.

- 11-8-14. 1. Candidates for the Degree of Master of Science shall be Bachelors of Science of not less than two years' standing.
2. They shall, at some examination, attain a standard not lower than that of second class in the examination for Bachelor of Science with Honours.
3. At the examination for the Degree of Master of Science account may be taken of any original work submitted by the candidate.
4. Candidates who have been placed in the first or second class in the examination for the degree of Bachelor of Science with Honours and are Bachelors of Science of not less than two years' standing may be admitted to the Degree of Master of Science without further examination.

RULES.

- 14-12-17. 1. Candidates must enter for or claim exemption from the examination as prescribed in the General Rules, and pay the prescribed fee.
2. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.
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**GRADUATION IN THE FACULTY OF ENGINEERING.****\*DEGREE OF BACHELOR OF ENGINEERING.****STATUTE RELATING TO THE DEGREE OF  
BACHELOR OF ENGINEERING.**

1. Candidates for the Degree of Bachelor of Engineering shall attend lectures, practise laboratory work, and pass four annual examinations in Subjects comprised in a course of study extending over four completed academical years. No candidate may present himself for examination in any year until he has passed the examination of the preceding year.

2. Candidates for the Degree of Bachelor of Engineering shall during the long vacation of each year engage in shop work or field work, as may be prescribed for the course of study chosen by the student.

**RULES.****BACHELOR OF ENGINEERING.—PASS DEGREE.**

NOTE.—“As prescribed for Students in Engineering” means, as a general rule, something less than the ordinary part of the subject. Particulars may be obtained from the Lecturer in the subject.

1. Candidates for the Degree of Bachelor of Engineering shall have fulfilled the matriculation requirements for the Faculty of Engineering.

2. Candidates for the Degree of Bachelor of Engineering may select a course of study in either of the following:—

- (a) Civil Engineering;
- (b) Mechanical and Electrical Engineering;
- (c) Mining Engineering;

and study in the selected course shall extend over a period of four completed academical years.

3. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examination prescribed for that Subject or Part of a Subject.

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\* This degree taken in the Department of Civil and Mechanical and Electrical Engineering will, for the present, be recognised as exemption from the Associate Membership Examination of the Institution of Civil Engineers.

## CIVIL ENGINEERING.

## FIRST YEAR.

4. During the first year of their course, candidates shall pass in the following subjects:—

Pure Mathematics, Part I., as prescribed for Students in Engineering, Course xiv.;

Applied Mathematics, Part I., as prescribed for Students in Engineering, Course xv.;

Chemistry, Part I., Course xviii.;

18-9-12. Geology and Mineralogy, Part I., Course xix.;

Physics, Part I., as prescribed for Students in Engineering, Course xx.;

Descriptive Geometry, Course xxi.;

Engineering Drawing and Design, Course xxii.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

## SECOND YEAR.

5. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for Students in Engineering, Course xiv.;

Applied Mathematics, Part II., as prescribed for Students in Engineering, Course xv.;

Chemistry, as prescribed for Students in Engineering, Course xviii.;

Physics, Part II., Course xx.;

Engineering Drawing and Design, Course xxii.;

Applied Mechanics, Course xxiii.;

Heat Engines, Part I., Course xxiv.

During the vacation between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

#### THIRD YEAR.

6. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

- Mathematics, as prescribed for Students in Engineering, Courses xiv. and xv.;
- Engineering Chemistry, Course xviii.;
- Engineering Geology, Course xix.;
- Civil Engineering, Part I.; Testing of Materials, Course xxv.;
- Surveying, Part I., Course xxvii.;
- Hydraulics, Parts I. and II., Course xxvi.;
- Building Construction and Architecture, Course xxviii.;
- Engineering Drawing and Design, Course xxi.

During the vacation between the third and fourth years of their course, candidates shall engage in practical work either in the field or shop as may be required.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

#### FOURTH YEAR.

7. Candidates who have completed the third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

- Civil Engineering, Part II.; Course xxv.;
- Surveying, Part II., Course xxvii.;
- Electrical Engineering, as prescribed for Students in Civil Engineering, Course xxix.;
- Engineering Drawing and Design, Course xxii.

Candidates must attend the Economics Short Course, Course ix.



During the vacation at the end of the fourth year, candidates shall engage in work in the field or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

18-9-12. 8. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects of that year.

9. Candidates before being admitted to the Degree of Bachelor of Engineering shall present a satisfactory thesis or report on one of the following:—

- (a) An Investigation carried out in the laboratory;
- (b) Work carried out in the field;

or shall submit a set of working drawings covering the design of such works or structures as may be approved.

10. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Civil).

11. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

## MECHANICAL AND ELECTRICAL ENGINEERING.

### FIRST YEAR.

12. During the first year of their course, candidates shall pass in the following subjects:—

- Pure Mathematics, Part I., as prescribed for Students in Engineering, Course xiv.;
- Applied Mathematics, Part I., as prescribed for Students in Engineering, Course xv.;
- Chemistry, Part I., Course xviii.;
- Geology and Mineralogy, Part I., Course xix.;
- 18-9-12. Physics, Part I., as prescribed for Students in Engineering, Course xx.;

Descriptive Geometry, Course xxi.;

Engineering Drawing and Design, Course xxii.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

#### SECOND YEAR.

13. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for Students in Engineering, Course xiv.;

Applied Mathematics, Part II., as prescribed for Students in Engineering, Course xv.;

Chemistry, as prescribed for Students in Engineering, Course xviii.;

Physics, Part II., Course xx.;

Engineering Drawing and Design, Course xxii.;

Applied Mechanics, Course xxiii.;

Heat Engines, Part I., Course xxiv.

During the vacation between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

#### THIRD YEAR.

14. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Mathematics, as prescribed for Students in Engineering, Course xiv.;

Applied Electricity, Course xx.;

Civil Engineering, Part I.; Testing of Materials, as prescribed for Students in Mechanical and Electrical Engineering, Course xxv.;

Surveying, Part I., Course xxvii.  
 Engineering Drawing and Design, Course xxii. ;  
 Engineering Chemistry, Course xviii. ;  
 Heat Engines, Part II., Course xxiv. ;  
 Hydraulics, Part I., Course xxv.

During the vacation between the third and fourth years of their course, candidates shall engage in shop work in an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

#### FOURTH YEAR.

15. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Electrical Engineering, Course xxix. ;  
 Mechanical Engineering, Course xxx. ;  
 Engineering Drawing and Design, Course xxii.

During the vacation at the end of the fourth year, candidates shall either engage in shop work at an approved engineering workshop, or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

18-9-12. 16. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects of that year.

17. Candidates before being admitted to the Degree of Bachelor of Engineering shall present a satisfactory thesis or report on one of the following:—

- (a) An Investigation carried out in the laboratory ;
- (b) Work carried out in the field ;

or shall submit a set of working drawings covering the design of such machinery or structure as may be approved.

18. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Mechanical and Electrical).

19. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

### MINING ENGINEERING.

#### FIRST YEAR.

20. During the first year of their course, all candidates shall pass in the following subjects:—

Pure Mathematics, Part I., as prescribed for Students in Engineering, Course xiv.;

Applied Mathematics, Part I., as prescribed for Students in Engineering, Course xv.;

Chemistry, Part I., Course xviii.;

Geology and Mineralogy, Part I., Course xix.;

8-0-12.

Physics, Part I., as prescribed for Students in Engineering, Course xx.;

Descriptive Geometry, Course xxi.;

Engineering Drawing and Design, Course xxii.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

#### SECOND YEAR.

21. Candidates who have completed the work of the first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., Course xiv.;

Applied Mathematics, Part II., as prescribed for Students in Engineering, Course xv.;

Chemistry, as prescribed for Students in Engineering, Course xviii.;

Physics, Part II., Course xx.;

Engineering Drawing and Design, Course xxii. ;  
 Applied Mechanics, Course xxiii. ;  
 Heat Engines, Part I., Course xxiv.

During the vacation between the first and second years of their course, candidates shall engage in work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

#### THIRD YEAR.

22. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Engineering Chemistry, Course xviii. ;  
 Geology, Part II., Course xix. ;  
 Civil Engineering, Part I., Testing of Materials, as prescribed for Students in Mining Engineering. Course xxv. ;  
 Surveying, Part I., Course xxvii. ;  
 Hydraulics, Part I., Course xxv. ;  
 Engineering Drawing and Design, Course xxii.

During the vacation between the third and fourth years of their course, candidates shall engage in approved work in the field.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

#### FOURTH YEAR.

23. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Mining Engineering ;  
 Electrical Engineering, as prescribed for Students in Mining Engineering, Course xxix. ;  
 Assaying ;  
 Metallurgy ;  
 Engineering Drawing and Design, Course xxii.

During the vacation at the end of their fourth year, candidates shall engage in practical work at an approved mine or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

24. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the subjects of that year. <sup>10-0-12.</sup>

25. Candidates, before being admitted to the Degree of Bachelor of Engineering, shall present a satisfactory thesis or report on one of the following:—

- (a) An Investigation carried out in the laboratory;
- (b) Work carried out in the field;

or shall submit a set of working drawings covering the design of such works, machinery, or structures as may be approved.

26. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Mining).

27. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

#### BACHELOR OF ENGINEERING—HONOURS DEGREE.

28. Honours shall be awarded at graduation after consideration of the candidate's record throughout his academic career in addition to such special work and tests as may be thought advisable. Candidates for honours must notify the Chairman of the Faculty at the beginning of their fourth year of their intention to apply. <sup>17-5-18.</sup>

1-9-14. STATUTE RELATING TO THE DEGREE OF  
MASTER OF ENGINEERING.

1. The Degree of Master of Engineering may be taken in any one of the following groups:—

- (a) Civil Engineering;
- (b) Mechanical and Electrical Engineering;
- (c) Mining Engineering.

2. Candidates shall be Bachelors of Engineering of at least three years' standing; shall be of the full age of 25 years; and shall be engaged in the design or in the construction of such works as are comprised within the profession of a civil engineer.

3. Candidates will be required to pass an examination in the subjects of that group which they have selected, provided that candidates who have obtained first-class honours at the degree of Bachelor of Engineering will be exempted from further examination.

4. Candidates must furnish certificates of practical training, covering at least four years, as assistant to a Civil Engineer. One year at least of this period must have been spent in the office in the design of Engineering work, and one year at least in or upon Engineering works. Persons who are engaged as teachers, or in research in the engineering laboratories of an approved institution, will be regarded as engaged in the design of Engineering work, but not more than one year of such work will be accepted as part of the practical experience demanded.

5. For the purposes of paragraph 4, an approved institution is one in which the laboratory equipment is approved by the Senate on the recommendation of the Faculty of Engineering.

6. For the purposes of paragraphs 2 and 4, the term "Civil Engineer" embraces all civilians who are engaged in the design or construction of Engineering works of the kind recited in the Royal Charter of the Institution of Civil Engineers, England.

7. Candidates who have fulfilled the foregoing conditions will be admitted to the Degree of Master of Engineering.

RULES.

1. Candidates must enter for or claim exemption from <sup>14-12-17</sup> the examination as prescribed in the General Rules, and pay the prescribed fee.

2. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.

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**GRADUATION IN A SECOND FACULTY.****RULES FOR GRADUATES PROCEEDING TO  
OTHER DEGREES.**

**3-10-13.** 1. Graduates who have obtained the Degree of Bachelor in any Faculty, and who wish to proceed to the Degree of Bachelor in any other Faculty, shall obtain credit for all work common to the two Degrees that they may have done during their course leading to the First Degree.

2. The subjects or parts of subjects which are required to complete the work prescribed for the Second Degree shall be done by the candidate in the order prescribed by the Faculty in which the Second Degree is sought: Provided that in the Mathematical subjects credit towards a Second Degree of Bachelor shall be given only in respect of the first and second years of those subjects.

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**DIPLOMA IN MECHANICAL AND ELECTRICAL  
ENGINEERING.**

STATUTE RELATING TO THE DIPLOMA IN  
MECHANICAL AND ELECTRICAL  
ENGINEERING.

1. Candidates for the Diploma in Mechanical and Electrical Engineering shall attend lectures, practise laboratory work, and pass examinations in subjects comprised in a course of study extending over four completed years. No candidate may present himself for examination in the second or any subsequent year until he has passed the examination of the preceding year.

2. The course of study for the Diploma in Mechanical and Electrical Engineering may be followed in such Technical Colleges or Institutions as may be approved by the Senate on the recommendation of the Faculty of Engineering.

3. An approved College or Institution shall be one in which the Teachers and Equipment are approved by the Senate, and subject to the inspection of any Officer appointed by the Senate.

4. The examination of candidates for the Diploma in Engineering shall be conducted by persons nominated by the Senate on the recommendation of the Faculty of Engineering.

5. Candidates must submit evidence that they are or have been engaged in Engineering or in a trade closely allied thereto.

## RULES.

*Entrance Requirements.*

1. Candidates for the Diploma in Mechanical and Electrical Engineering shall pass an Entrance Examination in the following subjects:—

- (a) English, including simple questions in English History and Geography;
- (b) Arithmetic;
- (c) Algebra;
- (d) Geometry.

Exemption from examination in any one of these subjects will be granted if the candidate has passed the Junior Public Examination in the subject.

14-9-17. Candidates who have passed at the Annual Technical College Examinations on the Subjects of English I., Arithmetic and Mensuration I., Algebra I., Geometry and Geography I., shall be eligible for admission as students of the Diploma Course.

In special circumstances additional entrance examinations may be held by Technical Colleges in the subjects mentioned in the last paragraph. In such cases a copy of the draft examination papers shall be submitted for the approval of the Chairman of the Faculty of Engineering.

*Courses.*

2. Two courses have been arranged—

- (a) Course A may be taken by students who seek to obtain a Diploma (only);
- (b) Course B may enable a student to gain a Diploma, and in addition obtain exemption from the first two years of the day Engineering Courses and enter, if matriculated, the third year of the day courses in Engineering. Candidates who elect to proceed to a Degree in Engineering in this manner must satisfy the conditions of the Statute (Clause 5), but at least six months of their practical training must have been received in approved workshops.

3. A candidate shall be held to have passed in any subject or part of a subject when he has attended the course of lectures, performed the laboratory work, and passed the examination prescribed for that subject or part of a subject.

*Course A.*

4. During the first year of their course, candidates shall pass in the following subjects:—

- (a) Mathematics;
- (b) Mechanical Drawing.

5. During the second year of their course, candidates shall pass in the following subjects:—

- (a) Applied Mathematics;
- (b) Physics;
- (c) Mechanical Drawing.

6. During the third year of their course, candidates shall pass in the following subjects:—

- (a) Physics;
- (b) Applied Mechanics;
- (c) Mechanical Drawing.

7. During the fourth year of their course, candidates shall pass in the following subjects:—

- (a) Heat Engines;
- (b) Electrical Engineering;
- (c) Machine Design and Drawing.

*Course B.*

8. Students of Course B should register themselves at the Central Technical College.

9. Unless otherwise specified, the subjects of Course B shall be taken as evening work at the University.

10. During the first year of their course, candidates may pass in the following subjects: —

- (a) Pure Mathematics I., as prescribed for students in first year of Engineering;

- (b) Applied Mathematics I., as prescribed for students in first year of Engineering;
- (c) Chemistry I., as prescribed for students in first year of Engineering.

11. During the second year of their course, candidates may pass in the following subjects:—

- (a) Pure Mathematics II., as prescribed for students in second year of Engineering;
- (b) Physics I., as prescribed for students in first year of Engineering;
- (c) Chemistry II. (Part I.), as prescribed for students in second year of Engineering.

12. During the third year of their course, candidates may pass in the following subjects:—

- (a) Applied Mathematics II., as prescribed for students in second year of Engineering;
- (b) Geology as prescribed for students in first year of Science, exclusive of field work;
- (c) Physics II. (Part I.), as prescribed for students in second year of Engineering;
- (d) Chemistry II. (Part II.), as prescribed for students in second year of Engineering.

13. During the fourth year of their course, candidates may pass in the following subjects:—

- (a) Physics II. (second part), as prescribed for students in second year of Engineering;
- (b) Descriptive Geometry, as for Course A (to be taken at the Central Technical College);
- (c) Mechanical Drawing, as for Course A (to be taken at the Central Technical College);
- (d) Applied Mechanics, as for Course A (to be taken at the Central Technical College).

14. During the fifth year of their course, candidates may pass in the following subjects:—

- (a) Machine Design and Drawing, as for Course A (to be taken at the Central Technical College);
- (b) Heat Engines, as for Course A (to be taken at the Central Technical College);
- (c) Electrical Engineering, as for Course A (to be taken at the Central Technical College, or, if proceeding to a Degree, as a subject of the day Engineering courses).

*General.*

15. Candidates who have fulfilled the foregoing conditions shall thereby be deemed to have qualified for the Diploma in Mechanical and Electrical Engineering.

16. Candidates who enter the third year day Engineering Course must complete certain field work in Geology, which will be prescribed during the third year course.

17. The Course B outlined above may be spread over a greater number of years, provided that the subjects are taken in an approved order.

(*Note.*—At present the subjects in the Faculty of Science are governed by the Regulations relating to evening students in the Faculty of Science, under which certain subjects are taken in alternate years, and the course will be arranged accordingly.)

18. Candidates will qualify for matriculation providing that they have passed the subjects outlined in the first three years of the Course B, and have in addition passed in Senior English and one other language to the standard required for matriculation in the Faculty of Engineering.

19. It should be clearly understood that any person is at liberty to obtain instruction in any subject in the various courses in the Faculty of Engineering without matriculation, but such person will not qualify for a degree in Engineering; also that the Courses A and B stated above are intended for candidates fulfilling the conditions of the Statute, clause 5.

### **EXTERNAL STUDENTS.**

In cases where persons who have matriculated are unable to attend lectures at or in connection with the University, exemption from lecture attendance is granted. Their studies are under the Director of Correspondence Studies, and they are deemed to be "External Students." It is desirable that persons who wish to be accepted as External Students should make application to the Registrar not later than 31st January in each year.

Except in such cases as the Senate may otherwise determine, a statutory declaration by a candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years.

External Students are required to renew their status from year to year. Forms for this purpose may be obtained at the Registry.

External Students may be allowed credit in a year for not less than two subjects or parts of subjects in which they have passed. A Supplementary Examination will be granted in March to those who have presented themselves but failed to pass in all or any of their subjects in the Annual Examinations. External Students who have obtained 8 units of credit may be admitted to the degree of Bachelor of Arts on passing in the one subject or part of a subject necessary to complete the 9 units of credit required for the Degree. Examinations may be held at Local Centres (at the same time as at the University) for the convenience of External Students who are unable, through distance, to present themselves at the University.

The fees payable may be ascertained on application to the Registrar or to the Director of Correspondence Studies.

The Courses offered to External Students in 1918 are:—

Latin I., English I., French II., British History I. and II., Logic and Psychology I., Pure Mathematics I., Applied Mathematics I., Education, and Ethics and Metaphysics.

The above list may be modified.

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**CLASSIFYING EXAMINATIONS OF THE DEPARTMENT  
OF PUBLIC INSTRUCTION.**

1. As far as the subjects of the examinations correspond, the Class III. Examination is regarded as equivalent to the Junior Public Examination for University purposes.

2. Class II. and Senior Public Examinations are regarded as mutually equivalent.

3. Candidates will get no credit for a pass in the Public Examinations unless they have fulfilled, in the Class or the Public Examinations, the requirements for a pass in the latter.

4. Candidates may obtain credit for their Class Examinations if they fulfil the conditions for that credit, either in the Class or the Public Examinations.

5. Candidates who at the Class Examinations fulfil the requirements for matriculation in any Faculty will be eligible for matriculation in that Faculty under the present requirements.

6. The papers in Class I. Examinations in subjects which are subjects of the University curriculum will be set and examined by the University, the standard being the same as that required for those subjects of the first year Arts or first year Science, with this proviso: That passes in subjects of the first year Arts or first year Science and in corresponding subjects of the Class I. Examinations will be recognised as mutually equivalent. Candidates must fulfil all the requirements in Class I. to obtain credit for that examination, and similarly they must fulfil all the requirements for graduation as set forth in the Calendar in any year to obtain credit for their degree course.

**DETAILS OF SUBJECTS.**

## FACULTY OF ARTS—B.A. DEGREE.

## A.—CLASSICS AND ANCIENT HISTORY.

Professor Michie, Mr. Cholmeley,\* Mr. Castlehow (acting).

**I. LATIN. II. GREEK.**

The Pass Courses in Latin and Greek will extend over **two** years. Part I. of either Latin or Greek may be studied alone.

## LATIN, PART I.; AND GREEK, PART I.

The subjects of Examination will be:—

1. Such Authors or portions of Authors as are prescribed for special study (see below).
2. Prose Composition.
3. Translation from Authors not specially prescribed.
4. Outlines of Roman History and Greek History.
5. Outlines of Latin Literature and Greek Literature.

Special Authors are prescribed, as follows:—

*For the Examination of 1918.*

## LATIN, PART I.

1. Cicero, Select Speeches (King).
2. Horace, Epistles, Book I.
3. Vergil, Georgics, Book I.

## GREEK, PART I.

1. Demosthenes, Olynthiacs and Philippic I.
2. Homer, Iliad, I.
3. Plato, Apology

*For the Examination of 1919.*

## LATIN, PART I.

1. Livy, Book XXI, Troyes (Bell and Son)
2. Vergil, Aeneid, VI., Page (Macmillan)
3. Horace, Odes III., Page (Macmillan)

## GREEK, PART I.

1. Homer, Odyssey, IX. and X., Edwards (Cambridge University Press)
2. Demosthenes, Olynthiacs and Phillipic I., Sandys (Macmillan)
3. Aristophanes, Frogs, Merry (Clarendon Press)

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\* On Active Service.

## LATIN, PART II.; AND GREEK, PART II.

The subjects of Examination will be:—

1. Authors, or portions of Authors, prescribed for special study.
2. Prose Composition.
3. Translation from Authors not specially prescribed.
4. History, as prescribed.
5. Literature, as prescribed.

*For the Examination of 1918.*

## (a) Special authors—

## LATIN, PART II.

Cicero, Select Letters (Watson)  
Tacitus, Histories II.  
Catullus, Selections (Simpson)

## GREEK, PART II.

Aristophanes, Clouds  
Sophocles, Oedipus Coloneus  
Herodotus, Book V.

## (b) History—

Greek History, General; Roman History, Special Period,  
Augustus to Trajan, with particular attention to the  
Settlement of Augustus and a critical study of the sources  
for the Reign of Nero.

## (c) Literature—

General knowledge.

*For the Examination of 1919.*

## (a) Special authors—

## LATIN, PART II.

Horace, Odes I. and II., Page (Macmillan)  
Pliny, Selected Letters, Allen (Clarendon Press)  
Tibullus, Selections, Postgate (Macmillan)

## GREEK, PART II.

Æschylus, Agamemnon, Sidgwick (Clarendon Press)  
Theocritus, Cholmeley (Bell and Son)  
Thucydides, Book VI., Marchant (Macmillan)

## (b) History—

Roman History, General; Greek History, Special Period,  
510-404 B.C.

## (c) Literature—

General knowledge.

## CLASSICAL HONOURS.

## COURSE EXTENDING OVER THREE OR FOUR YEARS.

The Examination for Classical Honours will be held in the month of March in each year.

Before presenting themselves for Examination, candidates must have done the work of *five* full Courses at least in their Honours Group, and generally conformed with the rules for graduation in Arts.

Candidates attend such lectures and do such class work in Part II. subjects, as may be prescribed for the Honours course in two successive years.

For lectures in History, Literature, Philosophy, see notes below.

The subjects of Examination will be:—

1. Prose Composition, Greek and Latin.
2. Translation from Authors not specially prescribed.
3. Authors, specially prescribed. (*See note A.*)
4. Literature—
  - (a) General;
  - (b) Special studies, as prescribed. (*See note B.*)
5. History—
  - (a) General;
  - (b) Special periods, as prescribed. (*See note C.*)
6. Greek Philosophy. (*See note D.*)

*Prescribed Work.*

FOR HONOURS EXAMINATIONS, 1918-1920.

For March, 1918.

Aristophanes, Frogs  
 Theocritus, Selections  
 Herodotus, Book VI.  
 Æschylus, Agamemnon  
 Thucydides, Book VII.  
 Demosthenes, De Corona  
 Livy, Book IX.  
 Tacitus, Histories, I.  
 Vergil, Georgics, I. and II.  
 Cicero, Pro Cornelio Sulla  
 Vergil, Aeneid, I. and II.  
 Quintilian, X.

## For March, 1919.

Thucydides, Book VII.  
 Æschylus, Agamemnon  
 Demosthenes, De Corona  
 Aristophanes, Clouds  
 Sophocles, Oedipus Coloneus  
 Herodotus, Book V.  
 Cicero, Pro Cornelio Sulla  
 Vergil, Aeneid I. and II.  
 Quintilian, Book X.  
 Cicero, Select Letters (Watson)  
 Tacitus, Histories, II.  
 Catullus, Selections (Simpson)

## For March, 1920.

Aristophanes, Clouds  
 Sophocles, Oedipus Coloneus  
 Herodotus, Book V.  
 Æschylus, Agamemnon  
 Thucydides, Book VI.  
 Theocritus  
 Cicero, Select Letters (Watson)  
 Quintilian, X.  
 Tacitus, Histories, II.  
 Catullus, Selections (Simpson)  
 Horace, Odes I. and II.  
 Pliny, Select Letters (Allen)  
 Tibullus, Selections (Postgate)

## (b) History—

- (i.) Greek, General, and Special Period, 510-404 B.C.
- (ii.) Roman, General, and Special Period, Augustus to Trajan, with particular attention to the Settlement of Augustus and a critical study of the sources for the Reign of Nero.

## (c) Literature—

The two special subjects studied in the two years preceding examination.

(d) Ancient Philosophy. (*See Note D. infra.*)

## NOTES.

## A.—Prescribed Books.

The same list of special authors is prescribed for the Honours Courses and for the Pass Course, Part II., but Candidates for Honours will offer for their final Examination the special authors of two consecutive Part II. Pass Courses, and will be expected to show a higher standard of knowledge than is required in the Graduation Course.

## B.—Lectures in Ancient Literature will be given—

In 1918: The Greek and Roman Epic.

In 1919: Greek Drama and Aristotle's Poetics.

## C.—Lectures on Ancient History will be given—

In 1918: Roman, Special Period; Greek, General.

In 1919: Roman, General; Greek, Special Period.

D.—On Greek Philosophy two Courses of Lectures will be given in consecutive years as prescribed, with special study of Plato, Republic, Phædo, Gorgias, Phædrus, Symposium, and Meno; and select chapters of Aristotle, Ethics, and Politics. Candidates for Classical Honours will be required to show a thorough knowledge of the Greek Text of the original authorities. Essays on the subject-matter will be required periodically.

For Additional Subjects (obligatory) see Rules for Degree of Bachelor of Arts with Honours, clause 4 (A).

In addition to the Authors prescribed for special study, students should have copies of the following books:—

## For Roman History—

How and Leigh: History of Rome (Longmans). Pelham: Roman History (Rivington). Bury: Student's Roman Empire (Murray).

Also texts of Tacitus (Annals and Histories, edited by C. D. Fisher, Oxford Classical Texts) and of Suetonius (Teubner).

## For Greek History—

Bury: History of Greece (Macmillan); or Holm: History of Greece, 4 vols. (Macmillan).

Also texts of Thucydides and Herodotus (Oxford Classical Texts).

For Greek and Latin Literature—

Murray: Greek Literature (Heinemann).

Mackail: Latin Literature, and texts of the authors specially dealt with in each year's course.

For Ancient Philosophy, second-year and third-year students must have—

Plato: Ed. J. Burnet (Oxford Classical Texts: Vols. 1-4).

Wallace: Outlines of Aristotle's Philosophy (Cambridge).

Aristotle: Ethica Nicomachea, ed. Bywater (Oxford).

Jowett's Translation and Introductions to the Republic can now be got in the Oxford Library of Translations (Clarendon Press, 2 Vols., 7s.).

Suggestions for reading will be given during the various lecture courses. Books so referred to can be read in or borrowed from the Library according to the Library Rules.

### III. ANCIENT HISTORY.

The Graduation Course in Ancient History will extend over two years, the work of one year counting as a half Course. One Lecture a week will be delivered in each year.

#### *Prescribed Work.*

1918: Greek, General; Roman, Special: Augustus to Trajan.

1919: Roman, General; Greek, Special: 510-404 B.C.

Candidates proceeding to Honours in Classics take the Lectures of this Course as an integral part of their Honours work. Special Papers on the Course are set in the Final Examination for Classical Honours.

### B.—MODERN LANGUAGES AND LITERATURE.

Mr. Stable;\* Mrs. Parnell, acting; Mr. Gray;† Miss McCulloch, acting; Mr. Schindler, part time.

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\* Absent on Military Duty.

† On Active Service.

**IV. ENGLISH.****1. Study of the Language in general.****PART I.****2. Outline History of English Literature from the beginning to the Elizabethan Period.****3. Prescribed books—** 1918.

- Chaucer: *Knights Tale* (Morris, Clarendon Press).  
 Sidney: *Apologie for Poetry* (Collins, Clarendon Press).  
 Shakespeare: *Romeo and Juliet*.  
 Shakespeare: *As You Like It*.  
 Jonson: *Every Man in His Humour* (Dent's Temple Classics).  
 Earle: *Microcosmography* (West, Pitt Press).  
 The Oxford Book of English Verse, pp. 57-300.

## 1919.

- Chaucer: *The Prologue to the Canterbury Tales: The Man of Lawes Tale* (University Tutorial Press).  
 More: *Utopia* (The Pitt Press Series).  
 Kyd: *The Spanish Tragedy* (The Temple Dramatists, Dent).  
 Shakespeare: *Antony and Cleopatra*.  
 Jonson: *The Alchemist*.  
 Dryden: *Essay of Dramatic Poesy* (Clarendon Press).  
 The Oxford Book of English Verse, pp. 57-300.

**PART II.****2. Outline History of English Literature from the Elizabethan Period to 1832.****3. Prescribed books—** 1918.

- Langland, *Piers the Plowman*, Prol., Passus I.-IV. (Skeat Clarendon Press).  
 Shakespeare: *Hamlet*.  
 Milton: *Paradise Lost*, Books I. and II. (Verity, Cambridge).  
 Dryden: *Select Prose Works* (Yonge, Macmillan).  
 Lamb: *Essays of Elia* (World's Classics).  
 Browning: *Strafford* (George, Clarendon Press).  
 The Oxford Book of English Verse, 462-744.

## 1919.

- The Tale of Gamelyn (Clarendon Press).  
 Shakespeare: *Love's Labour's Lost*.  
 Ford: *Broken Heart* (The Temple Dramatists, Dent).  
 Cowley: *Essays* (The Pitt Press Series).  
 Pope: *Essay on Criticism*.  
 De Quincy: *Confessions of an English Opium Eater*.  
 Keats: *Minor Poems*.  
 The Oxford Book of English Verse, 462-744.



**V. FRENCH.**

1. Composition and Translation.
2. Study of the Language in general.
3. Literary History (in connection with prescribed books).

**PART I.**

## Prescribed books—

1918.

- Corneille: *Le Menteur* (Hachette, Paris).  
 Molière: *Le Misanthrope* (Hachette, Paris).  
 La Rochefoucault: *Maximes* (Garnier, Paris).  
 La Bruyère: *Caractères*, Ch. I, and V. (Hachette, Paris).  
 The Oxford Book of French Verse, pp. 58-190.  
 Pierre Loti: *Pêcheur d'Islande*.\*

1919.

- Corneille: *Horace* (Clarendon Press Series).  
 Racine: *Andromaque* (Hachette, Paris).  
 Boileau: *Art Poétique* (Hachette's French Classics).  
 Montaigne: *Essays* (Principaux chapitres et extraits, Hachette, Paris).  
 Pascal: *Lettres Provinciales* (I, IV.), (Hachette, Paris).  
 The Oxford Book of French Verse, pp. 58-190.  
 Merimée: *Colomba* (Oxford Modern French Series).

**PART II.**

1918.

- Racine: *Bérénice* (Hachette, Paris).  
 Voltaire: *Méropé* (Clarendon Press).  
 Diderot: *Extraits* (Hachette, Paris).  
 Victor Hugo: *Les Burgraves* (Hetzl, Paris).  
 Cousin: *La Société Française au XVII. ième Siècle* (Oxford Higher French Series).  
 The Oxford Book of French Verse, pp. 203-350.  
 Pierre Loti: *Pêcheur d'Islande*.\*

1919.

- Racine: *Les Plaideurs* (Pitt Press Series).  
 Molière: *Le Bourgeois Gentilhomme* (Hachette, Paris).  
 Voltaire: *Le Siècle de Louis XIV.* (Hachette, Paris).  
 Beaumarchais: *Le Barbier de Seville* (Clarendon Press).  
 Madame De Stael: *De L'Allemagne* (Oxford French Series).  
 Victor Hugo: *Les Orientales*.  
 The Oxford Book of French Verse, pp. 203-350.  
 Merimée: *Colomba* (Oxford Modern French Series).

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\* To be prepared for oral examination.

**VI. GERMAN.**

1. Composition and Translation.
2. Study of the Language in general.
3. German Literature (in connection with prescribed books).

## PART I.

1918.

Herder: Kritische Walder, vol. I.  
 Lessing: Emilia Galotti (Heath, Boston).  
 Goethe: Faust, Part I. (Lee, Macmillan).  
 Schiller: Historische Skizzen (Buchheim, Oxford).  
 The Oxford Book of German Verse, pp. 70-210.  
 Chamisso: Peter Schlemihl.\*

1919.

Lessing: Nathan der Weise (Buchheim, Oxford).  
 Goethe: Poems (Harris, Heath).  
 Schiller: Don Carlos (Lieder, Oxford).  
 Goethe: Dichtung und Wahrheit (Buchheim, Oxford).  
 Heise: L'Arrabbiatta (Heath).

## PART II.

1918.

Goethe: Faust, Part I. (Lee, Macmillan).  
 Kleist: Michael Kohlhaas (Carter, Macmillan).  
 Eichendorff: Aus dem Leben eines Taugenichts (Heath, Boston).  
 Grillparzer: Der Traum ein Leben (Heath, Boston).  
 Uhland: Ernst, Herzog von Schwaben (The Pitt Press Series).  
 The Oxford Book of German Verse, pp. 216-330.  
 Chamisso: Peter Schlemihl.\*

1919.

Lessing: Laocoon (Upcott, Oxford).  
 Schiller: Wilhelm Tell (Buchheim, Oxford).  
 Heine: Buch der Lieder (Buchheim, Oxford).  
 Kleist: Prinz Friedrich von Homburg (Baker, Oxford).  
 Scheffel: Ekkehard (Heath).  
 Heise: L'Arrabbiatta (Heath).

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\* To be prepared for oral examination.

HONOURS COURSE EXTENDING OVER THREE OR FOUR YEARS.

The Examination for Modern Languages and Literature Honours will be held in the month of March in each year.

Before presenting themselves for Examination, candidates must have done the work of *five* full Courses in their Honours Group, and generally conformed with the rules for graduation in Arts.

The subjects for Examination will be—

A—ENGLISH.

1. Alternative subjects for essay on literary history or literary criticism.
2. Passages from specified works for explanation and discussion, with questions on literary history and language.
3. Questions on a special period or subject of English literature.
4. Passages from selected English writings between 1200 and 1500 for explanation, with questions on language, metre, and literary history.
5. Passages from selected writings in Old English earlier than 1200 for explanation, with questions on language, metre, and literary history.

B—FRENCH.

1. Alternative subjects for an essay (in French) on French literature or literary criticism.
2. Passages from unspecified French authors not earlier than 1500 for translation and explanation.
3. Passages from English authors to be translated into French.
4. Questions on a special period or subject of French literature after 1500.
5. (a) Passages from specified French writings earlier than 1500 for translation and explanation, with questions on language, metre, and literary history.  
(b) Questions on the elements of historical French grammar.

C—GERMAN.

1. Alternative subjects for an essay (in German) on German literature or literary criticism.
2. Passages from unspecified German authors not earlier than 1500 for translation and explanation.

3. Passages from English authors to be translated into German.
4. Questions on a special period or subject of German literature after 1500.
5. (a) Passages specified German writings earlier than 1500 for translation and explanation, with questions on language, metre, and literary history.
- (b) Questions on the elements of historical German grammar.

*Notes.*

*Prescribed Books.*—The special books prescribed in any year will have been read in the Graduation Courses, Part I. and Part II., in the two preceding years. To this list will be added certain works taken from authors of the periods or subjects specially prescribed for the Honours Course.

## SPECIAL PERIODS OR SUBJECTS.

*A.*

March, 1918—

- (a) 1700—1745.
- (b) Old and Middle English; Sweet's Anglo-Saxon Reader; Morris's Specimens of Early English (Vol. I.); Sir Gawayne and the Green Knight.

March, 1919—

- (a) 1793—1832.
- (b) As for 1918.

March, 1920—

- (a) Epic Poetry.
- (b) As for 1918.

*B.*

March, 1918—

- (a) The XVIIIth Century.
- (b) Old French: Chrestomathie de l'Ancien Français, Constans. Ed. Hachette; Chrétien de Troyes: Erec et Enide.

March, 1919—

- (a) The XVIIth Century Drama.
- (b) As for 1918.

March, 1920—

- (a) 1650—1685.
- (b) As for 1918.

## C.

March, 1918—

- (a) The XVIIth Century.
- (b) Old and Middle High German: Althochdeutsches Lesebuch, Braune; Das Nibelungenlied; Walter von der Vogelwiede.

March, 1919—

- (a) The XVIIIth Century.
- (b) As for 1918.

March, 1920—

- (a) Romance Literature.
- (b) As for 1918.

## C.—HISTORY AND ECONOMICS.

Mr. Alcock, Mr. Melbourne, and Mr. Witherby.

## VII. BRITISH HISTORY.

## PART I.

Mr. Alcock and Mr. Melbourne.

Two Papers will be set in the Examination. The First Paper will contain questions in English History up to A.D. 1485, and on Colonial, especially Australian, History. The Second Paper will be of somewhat greater difficulty, and Students will be required to limit their choice of questions to one of the two periods—

- A. 1485—1603; and
- B. 1603—1688.

*Books Prescribed.*

- Student's Manual of English Constitutional History: Medley.
- Short History of British Colonial Policy: Egerton.
- State and Federal Constitutions of Australia: Cramp.
- Introductory History of England, Vols. I. and II.: Fletcher.
- Select Statutes and Constitutional Documents: Prothero.
- Constitutional Documents of the Puritan Revolution: Gardiner.
- "Literary and Historical Atlas of Europe, America, Africa, Australasia," "Everyman's Library."
- For Period A.—Longman's Political History of England, Vols. V. and VI.
- For Period B.—Longman's Political History of England, Vols. VII. and VIII.

## PART II.

Besides a General Paper covering all English History from 1688 to 1832, there will be a Special Paper of somewhat greater difficulty. In this Paper, Students will be required to limit their choice of questions to two periods.

A.—1688 to 1783;

B.—1783 to 1832.

Students should possess the following books:—

- Fletcher's Introductory History of England, Vols. III. and IV.
- Maitland's Constitutional History of England.
- Longmans' Political History of England, Vol. VIII.
- Grant Robertson's England under the Hanoverians.
- Grant Robertson's Select Statutes, Cases, and Documents.
- Bagehot's The English Constitution (Nelson's 1s. Library).
- Sidney Low's The Governance of England.
- H. Morse Stephens' Revolutionary Europe. Rivington's (for Period B).
- Burke's Thoughts on The Present Discontents and Reflections on the French Revolution.
- Grant Robertson's Historical and Modern Atlas of the British Empire.

**VIII. CONSTITUTIONAL HISTORY.**

Mr. Alcock and Mr. Melbourne.

Besides the collections of Documents and Works on Constitutional History recommended for use in British History I. and II., Students should have access to Dicey's Law of the Constitution and Anson's Law and Custom of the Constitution.

*Books Prescribed.*

- Student's Manual of English Constitutional History: Medley.
- Law and Custom of the Constitution: Anson.
- Law of the Constitution: Dicey.
- Select Charters: Stubbs.
- Select Statutes: Prothero.
- Constitutional Documents: Gardiner.
- Select Cases, Statutes, and Documents: Grant Robertson.

Students will also be required to display knowledge of selected portions of Keith's Responsible Government in the Dominions, and of such constitutional documents illustrative of Imperial History as may from time to time be prescribed.

**IX. ECONOMICS.***Text-books Prescribed.*

Systematic Economics.

Mr. Alcock.

Economics of Industry: Marshall.

The Industrial System: Hobson.

Cash and Credit: Barker.

Banking and Currency: Sykes.

Economic History.

Mr. Melbourne.

Briggs, Economic History.

(Additional for reading.)

Bland, Brown, and Tawney's English Economic History, Select Documents.

Cunningham: Growth of English Industry and Commerce.

*Economics Short Course.*

Mr. Alcock.

Six lectures, to include—

- (a) Instruction in terms and general principles of economics and business management;
- (b) Direction of reading; and
- (c) Discussion of a few selected topics.

**X. POLITICAL SCIENCE.**

Mr. Alcock.

*Text-books Prescribed.*

Aristotle's Politics, tr. Jowett, ed. H. W. C. Davis.

Gierke, Political Theories of the Middle Age, ed. F. W. Maitland.

Pollock, History of the Science of Politics.

Seeley, Introduction to Political Science.

Graham, English Political Philosophy, from Hobbes to Maine.

Ilbert, The Mechanics of Law-Making.

Lewis, The Government of Dependencies.

**HONOURS COURSE IN HISTORY AND ECONOMICS.**

Honours students must study both divisions of the subjects as set forth above. They must attend lectures on the special study of the year subsequent to taking British History II. Additional reading for the Honours degree will be prescribed by the lecturers in tutorial classes.

They will further be required to attend lectures on General Roman and Greek History. Questions on such History will form part of the General Paper in the Final Honours Examination.

Special Subject for 1918: The Great Rebellion.

Special Subject for 1919: The Influence of Political Theory upon British Colonial History.

**SCHEME SUMMARISING THE REQUIREMENTS FOR AN HONOURS COURSE IN HISTORY AND ECONOMIC SCIENCE AS TAKEN IN THREE YEARS.**

**First Year—**

1. British History I.
2. A part of a language other than English.
3. English.

**Second Year—**

1. British History II.
2. Economics.
3. Ethics and Metaphysics.
4. Political Science.

**Third Year—**

1. Constitutional History.
2. British History, special study.
3. Ancient History, Half Course.

**D.—MENTAL AND MORAL PHILOSOPHY, AND EDUCATION.**

Mr. Mayo and Mr. Seymour.

**XI. LOGIC AND PSYCHOLOGY.**

**LOGIC.**

Mr. Seymour.

Logic is taken in two parts in successive years. The first-year work is concerned mainly with deductive, the second with inductive Logic.

*Text-books.*

**PART I.**

An Introductory Logic: Creighton.

(For additional reading.)

Essentials of Logic: Bosanquet.



## PART II.

Empirical Logic: Venn.

System of Logic: J. S. Mill.

Special reading will be prescribed for third-year Science students.

## PSYCHOLOGY.

Mr. Mayo.

Psychology is taken conjointly with Logic in two parts in successive years.

*Text-books.*

## PART I.

Manual of Psychology: Stout, 3rd Edition, Introduction and Books I., II., and III.

Elementary Physiology: Huxley, Chapters 8 to 11 inclusive.

(Additional for reading.)

The Structure and Growth of the Mind: Mitchell.

## PART II.

The Structure and Growth of the Mind: Mitchell.

Text-book of Psychology: James.

Physiological Psychology: McDougall.

**XII. ETHICS AND METAPHYSICS.**

Mr. Mayo.

## ETHICS.

Elementary Ethics is taken conjointly with Metaphysics as a single course.

*Text-books.*

Prolegomena to Ethics: Green.

History of Ethics: Sidgwick.

Psychology of the Moral Self: Bosanquet.

(Additional for reading.)

Ethics: Dewey and Tufts.

## METAPHYSICS.

The History of Philosophy from Descartes to Kant, with special reference to the English philosophers and Kant, is prescribed for study.

*Text-books.*

Selections from Kant: Watson.  
 Inquiry concerning Human Understanding: Hume.  
 Students' History of Philosophy: Rogers.

(Additional for reading.)

Outline of Philosophy: Watson.

**XIII. EDUCATION.**

Mr. Seymour.

No student may take the course in Education unless he has previously passed in Logic and Psychology, Part I.

Theory of Education:—

Bagley: The Educative Process.  
 MacCunn: The Making of Character.

(Additional for reading.)

Irving King: The Psychology of Child Development.  
 Halleck: The Education of the Central Nervous System.

History of Education:—

Text-book in the History of Education: Monroe.  
 Educational Reformers: Quick.

(Additional for reading.)

The Student should read as widely as possible the works of the outstanding writers on Education. A suitable collection of such original sources is—

F. V. N. Painter's "Great Pædagogical Essays." (Am. Book Co., N. Yk.).

**HONOURS COURSE IN MENTAL AND MORAL PHILOSOPHY.**

I. Candidates for the Degree of Bachelor of Arts with Honours in Mental and Moral Philosophy shall attend lectures and pass the examinations for the ordinary degree in Logic and Psychology, Parts I. and II., Ethics and Metaphysics, Economics, and one language other than English, Parts I. and II., before they sit for their final Honours Examination.

II. In September of the year prior to their Final Honours Examination candidates shall present a thesis upon some topic connected with their studies that shall have been previously approved. The merit of his thesis shall be taken into account in determining a candidate's classification in Final Honours.

III. The Final Honours Examination shall consist of papers in Psychology, Ethics, Epistemology, and Metaphysics. Candidates will be expected to satisfy the Examiners in every Department of their studies.

IV. The special studies to be undertaken by candidates for Honours shall be from time to time determined by the Faculty of Arts. In addition to the studies thus prescribed, candidates will be expected to profess special courses of reading for their Final Examination. Such special courses of reading must be approved by the Faculty of Arts.

V. The Lecturer in Philosophy shall direct the studies of candidates for Final Honours. Students of the third year shall attend such lectures as are from time to time prescribed by the Lecturer and sanctioned by the Chairman of the Faculty of Arts.

The special studies prescribed by the Faculty of Arts under Rule IV. herein for the Final Honours Examination are as follows:—

1918.

- Hume: Treatise of Human Nature, Vol. I.
- Kant: Selections from Kant (Watson).
- Caird: Critical Philosophy of Kant, Vol. I. (to page 208).
- Green: Introduction to Vol. I. of Hume's Treatise.
- Ward: Naturalism and Agnosticism, Vols. I. and II.
- Joachim: The Nature of Truth.
- Bosanquet: Essentials of Logic.
- Green: Prolegomena to Ethics.
- Green: Principles of Political Obligation.
- Bosanquet: Philosophical Theory of the State.
- Rousseau: The Social Contract.
- James: Principles of Psychology, Vols. I. and II.
- Mitchell: The Structure and Growth of the Mind.
- McDougall: Physiological Psychology.

The general history of metaphysical thought from Descartes to Kant.

The Class in Greek Ethics must be attended as part of the work required for Honours in the third year of study.

#### E.—MATHEMATICS, PURE AND APPLIED.

Professor Priestley: Mr. Priest: Mr. Swanwick,\* Mr. McCarthy—acting (evening).

### XIV. PURE MATHEMATICS.

#### PART I.

This class will be held in two divisions—A and B.

Division B will cover the work necessary for a pass.

#### *Details of work.*

##### A.

A Course of about 90 Lectures on—

Plane Trigonometry.  
Algebra and Theory of Equations.  
Geometry.  
Analytical Geometry.  
Elementary Infinitesimal Calculus.

#### *Books recommended.*

Algebra: C. Smith.  
Plane Trigonometry: Carslaw.  
Modern Plane Geometry: Richardson and Ramsay.  
Solid Geometry: Jackson.  
Geometrical Conics: Caunt and Jessop.  
Conic Sections: C. Smith.  
Introduction to Calculus: Carslaw.

##### B.

A Course of about 60 Lectures on—

Plane Trigonometry.  
Algebra.  
Analytical Geometry of straight line and circle.  
Elementary Solid Geometry.  
Elementary Infinitesimal Calculus.

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\* Absent on leave.

*Books recommended.*

Plane Trigonometry: Carslaw.  
 Analytical Geometry (straight line and circle): Loney.  
 School Geometry, Part VI.: Hall and Stevens.  
 Introduction to Calculus: Carslaw.

## PART II.

A Course of about 60 Lectures on—  
 Differential and Integral Calculus.  
 Elementary Differential Equations.

*Book recommended.*

Infinitesimal Calculus: Lamb.

**XV. APPLIED MATHEMATICS.**

## PART I.

A Course of about 60 Lectures on—  
 Elementary Dynamics, Statics, and Hydrostatics.

*Book recommended.*

Elementary Dynamics of Particle and Rigid Body: Barnard.

## PART II.

A Course of about 60 Lectures on—  
 Dynamics of a Particle.  
 Statics and Dynamics of a Rigid Body.  
 Hydrostatics.

*Books recommended.*

Statics: Lamb.  
 Dynamics: Lamb.

**HONOURS COURSE IN MATHEMATICS.**

Tutorial Classes will be held three times a week for second-year students proceeding to a degree with Honours in Mathematics.

These classes will read—

Elementary Analytical Geometry of Three Dimensions.  
 Differential Equations.  
 Differential and Integral Calculus.  
 Projective Geometry.  
 Dynamics of a Particle.

## Third Year.

Classes will be held daily for third-year students in the school of Mathematics.

These classes will read—

Higher Analytical Geometry.  
 Mathematical Analysis.  
 Theory of Attractions.  
 Rigid Dynamics.  
 Hydrodynamics.

During the first term of each year a Course of about 20 Lectures on Spherical Trigonometry and Astronomy will be held.

**F.—BIOLOGY, CHEMISTRY, GEOLOGY AND MINERALOGY,  
 AND PHYSICS.**

See Faculty of Science, Courses XVI, XVII, XVIII, XIX, and XX.

**FACULTY OF SCIENCE—B.Sc. DEGREE.**

**A.—MATHEMATICS PURE AND APPLIED.**

See Faculty of Arts, Courses XIV and XV.

**B.—BIOLOGY.**

Dr. Johnston.

This Course consists of Lectures and Practical Work in Botany and Zoology.

**XVI. BOTANY.**

**PART I.—First Year.**

The Course includes the study of the Main Classes of Thallophytes (Bacteria, Algæ, Fungi, Lichens); Bryophytes (Mosses and Liver-worts); Pteridophytes (Ferns, Club Mosses, etc.); and Spermaphytes (Gymnosperms and Angiosperms); as well as the study of Plant Histology and Physiology.

In a short course on Systematic Botany, some of the more common orders of Angiosperms are dealt with.

**PRACTICAL BOTANY.**

Examination in detail of typical members of the more important classes.

Simple methods employed in the preparation of objects for microscopic examination.

PARTS II. AND III.—Second and Third Years.

1918. A short practical Course on the Physiology of Plants.

### XVII. ZOOLOGY.

PART I.—First Year.

The following Groups of Animals are dealt with:—Protozoa, Sponges, Coelenterates, Flatworms, Roundworms, Echinoderms, Annulates, Arthropods, Molluscs, Ascidians, Amphioxus, Vertebrates.

#### PRACTICAL ZOOLOGY.

Typical members of the above Groups are studied in the practical class.

PARTS II. AND III.—Second and Third Years.

Alternating Courses.

1918—

(a) The Invertebrata.

1919—

(b) The Vertebrata—including a general account of Vertebrate Embryology and Comparative Anatomy.

(c) Additional to (a) or (b) for third year, a Course of Lectures and Practical Work on Vertebrate Histology.

If Biology be taken in the third year as a minor subject, the course will be as set down in (a) or (b)—*i.e.*, course (c) will be omitted.

#### *B.Sc. Honours in Biology.*

Candidates will be expected to possess a thorough knowledge of the work of the three years; to have read some of the literature dealing with Darwinism, Heredity, Evolution, and Distribution.

#### *Laboratory Work.*

First Year—

Not less than four hours weekly for three terms.

Second Year—

Not less than nine hours weekly for three terms.

**Third Year—**

- (i.) If Biology be the major subject—not less than twelve hours.  
(ii.) If Biology be the minor subject—not less than six hours.

Excursions are held periodically.

*Books recommended for First-year Students.*

Botany: Lowson's Text-book of Botany.  
Zooology: Parker and Haswell's Manual of Zoology, or Lloyd Morgan's Animal Biology.  
Practical Zoology: Marshall and Hurst's Practical Zoology.

*Advanced Courses—Additional Books.*

- (a) Parker and Haswell: Text-book of Zoology, Vol. I.  
Darwin and Acton: Physiology of Plants.  
(b) Parker and Haswell: Text-book of Zoology, Vol. II.  
Foster and Balfour: Elements of Embryology.  
(c) Schäfer: Essentials of Histology.

*Students taking Part II. should read—*

Thomson and Geddes: Evolution (Home University Library).  
Stopes: Ancient Plants.  
Scott: Evolution of Plants (Home University Library).

*Students taking Part III. should read—*

Some Standard Work on Physiology, such as—  
Leonard Hill's Manual of Physiology, or  
Osborne's Elements of Animal Physiology (Lothian, Melbourne).

*B.Sc. Honours—Additional Works.*

Darwin: Origin of Species (Murray).  
Darwin: Descent of Man (Murray).  
Wallace: Island Life (Macmillan), Chapters 1-5, 21, 24.  
Thomson: Heredity (Murray).  
Willey: Convergence in Evolution.  
Lydeker: A Geographical History of Mammals (Australian and South American sections).  
Geoffrey Smith: Primitive Animals (Cambridge University Press).  
Judd: The Coming of Evolution (Cambridge University Press).  
Seward (editor): Darwin and Modern Science (Cambridge University Press). chapters 2 to 8, 10 to 17.



Walter: Genetics, an Introduction to the Study of Heredity (Macmillan, New York).

The larger works of reference are contained in the Departmental Library.

Excursions are held at intervals.

### C.—CHEMISTRY.

#### XVIII. CHEMISTRY.

Professor Steele,\* Dr. Denham, Mr. Bagster, and Mr. Jones.\*

##### PART I.—First Year.

A brief discussion of the nature and objects of the study of Chemistry and of the meaning of the words "Experiment," "Hypothesis," and "Theory." The classification of substances—mixtures and pure substances—elements and compounds—the methods of separation of mixtures and of purification of substances. Crystallisation, Distillation, &c., &c. The characteristics of chemical action. The fundamental quantitative Laws of Chemistry—the Gas Laws, Boyle's Law, Charles's Law, the Law of Gay Lussac. The Atmosphere and its Constituents—Oxygen, Nitrogen, Carbon Dioxide. Oxides and Combustion, the Phenomena of Combustion, the Phlogiston Hypothesis, the work of Lavoisier. Water—its synthesis and analysis. Equivalent Weights, the Atomic Theory, the Theory of Avogadro and its consequences, Chemical Equations, Acids, Bases, and Salts. Double Decomposition and Chemical Equilibrium. The Laws of Mass Action—Nitrogen and its Oxides and Acids, Oxidation and Reduction. The Halogens and the Oxides of the Halogens. Auto-oxidation.

A number of the elements and their more important compounds will be studied, chiefly with the object of illustrating the principles which are discussed during the course.

##### PART II.—Second Year.

- (a) A Course of Forty Lectures on General Physical Chemistry.
- (b) A Course of Twenty Lectures on Systematic Inorganic Chemistry.
- (c) A Course of Thirty Lectures on Systematic Organic Chemistry.

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\* Absent on special work.

Students in the Faculty of Science will take courses (a), (b), and (c). Students in the Faculty of Engineering will take course (a) only.

PART III.—Third Year.

(a) A Course of Forty Lectures on Advanced Physical and Inorganic Chemistry.

(b) A Course of Thirty Lectures on Advanced Organic Chemistry.

(c) A Course of Thirty Lectures on Applied Chemistry.

Students in the Faculty of Science who are taking Chemistry must take the whole or part of these courses according to the subject or group of subjects they are taking in their third year.

Students in the Faculty of Engineering must take a portion of course (c) not exceeding one whole term in length. This portion of the course will be specially adapted for engineering students, and is referred to in the engineering curriculum as Engineering Chemistry.

*Laboratory Work.*

Faculty of Science.

First Year—Four hours per week.

Second Year—Nine hours per week.

Third Year—

(a) School of Chemistry alone—Eighteen hours per week.

(b) School of Chemistry and Biology or Chemistry and Geology—

If chemistry is the major subject—Twelve hours per week.

If chemistry is the minor subject—Six hours per week.

Faculty of Engineering.

First Year—Four hours per week.

Second Year—Six hours per week during the first and second terms.

Third Year—Fifty hours distributed over the first and second terms.

*Books prescribed or recommended for Students in the Department of Chemistry.*

For First Year Students—

Alexander Smith: Inorganic Chemistry.

Bruce and Harper: Practical Chemistry.

Students who have not studied before entering on their University course are advised to provide themselves in addition with one of the simpler books on elementary chemistry, such as—

Perkin and Lean: Introduction to the Study of Chemistry.  
 Donington: A Class Book of Chemistry.  
 Hedley and Wilson: A School Chemistry.

For Second and Third Year Students—

Caven and Landor: Systematic Inorganic Chemistry.  
 Bernthsen: Organic Chemistry; *or*  
 Wade: An Introduction to Organic Chemistry.  
 James Walker: Text-book of Physical Chemistry.

For Third Year Engineering Students—

Sexton: Chemistry of Materials of Engineering.

For Laboratory Work—Students completing a three years' course of Chemistry must provide themselves with a copy of—

Treadwell: Analytical Chemistry (two vols.).  
 Sudborough and James: Practical Organic Chemistry.  
 F. E. Weston: The Detection of Carbon Compounds.

Students who are studying Chemistry for two years only may use—

Newth: Analytical Chemistry,  
 or any other approved text-book.

A number of reference books are provided for the use of students in the Library of the Chemistry Department. These books must on no account be removed from the Library.

## XIX. GEOLOGY AND MINERALOGY.

Dr. Richards and Mr. Walkom.

### PART I.

*For Arts, Science, and Engineering Students.*

*Lectures.*—Two Lectures per week on Physiography, Elements of Crystallography, Rock-forming Minerals, Petrology, Tectonic Geology, Elements of Palæontology, and the Principles of Stratigraphy as indicated by the Geology of Australia.

*Laboratory Practice.*—Four hours per week in studying Crystals, Rock-forming Minerals, Common Ores and Vein Stones, Rocks, Elementary Fossils, Geological Maps and Sections.

*Field Work.*—Ten Excursions during the year, including two of several days' duration.

*Special Course of Lectures for Engineers.*—During the third term a Special Course of Ten Lectures on Economic Geology for Engineering Students.

## PART II.

*Lectures.*—Three Lectures per week on Crystallography, Optical Mineralogy, Petrology, Economic Geology, Palæontology, Stratigraphy, and the Principles of Field Work.

*Laboratory Practice.*—Nine hours per week in studying Crystals, Minerals, Rocks (both microscopically and megascopically), Blow-pipe Analysis of Minerals, Palæontology, Field Mapping, and the Preparation of Rock Sections.

*Field Work.*—As prescribed.

*Special Courses.*—During the second term Special Courses will be given—

- (a) Ten Lectures to third year Civil Engineering Students on Geological Problems affecting Engineering.
- (b) A Course of Lectures to third year Applied Science Students on Economic Geology.

## PART III.

To be taken in conjunction with Chemistry, Biology, or Physics, as Third-Year Subjects.

*Lectures.*—

Course A.—40 Lectures in Optical Mineralogy and Petrology.

Course B.—40 Lectures in Palæontology.

Course C.—30 Lectures in General Geology.

*Laboratory Practice.*—

As a major third-year subject—Twelve hours.

As a minor third-year subject—Six hours.

*Field Work.*—As prescribed.

NOTE.—Candidates taking either Chemistry or Physics in conjunction must attend Courses A and C. Those taking Biology in conjunction, Courses B and C. In addition, a Special Course of Lectures will be given for Students doing an Honours Course.

*Text-books.*

## PART I.

*Faculties of Arts and Science—*

Introduction to Geology: W. B. Scott (Macmillan and Co.).  
*or*, Geology (Shorter Course): Chamberlin and Salisbury  
 (John Murray).

Palæontology: H. Woods (Cambridge University Press).

*Faculties of Arts and Science—*

Text-book of Petrology: F. Hatch (Sonnenschein).  
*or*, Petrology for Students: A. Harker (Cambridge University  
 Press).

Elements of Mineralogy: F. Rutley (Murby and Co.), 1916 edtn.

*Faculty of Engineering—*

Geology for Engineers: R. F. Sorsbie (Griffin and Co.).

## PART II.

*Lectures.*

Text-book of Mineralogy: E. S. Dana (Wiley and Sons).

Australasian Fossils: F. Chapman (Geo. Robertson).

Minerals in Rock Sections: Luquer (Van Nostrand Co.).

## PART III.

Igneous Rocks, Vol. I.: Iddings (Wiley and Sons); *or*,

Natural History of Rocks: A. Harker (Methuen).

Text-book of Palæontology, Vol. I.: Zittel (Macmillan and Co.).

**XX. PHYSICS.**

Professor Priestley, Mr. Parnell,\* and Mr. Lusby.

## PART I.

*Lectures.*

A Course of Three Lectures weekly on Physical Measurements,  
 Mechanics and Properties of Matter, Heat, Magnetism and Electricity,  
 and Light.

*Practical Work.*

Three hours per week in the Laboratory.

*Text-books recommended.*

Elementary Mechanics: Lodge.

Heat: Draper.

Magnetism and Electricity: Hadley.

Light: Glazebrook.

Practical Physics: Bower and Satterly.

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\* On Active Service.

## PART II.

For Science and Engineering Students.

Courses of one lecture a week each on—

General Properties of Matter and Heat;  
Magnetism and Electricity.

Additional for Science Students.

A course of one lecture a week on—

Light, Sound, and Heat.

*Practical Work.*

For Engineering Students: Three hours per week in the laboratory in first and third terms. Six hours per week in second term.

For Science Students: Six hours per week in the laboratory.

*Text-books recommended.*

Properties of Matter: Poynting and Thomson.

Heat: Poynting and Thomson.

Sound: Poynting and Thomson.

Electricity and Magnetism: Starling.

Light: Edser.

Practical Physics: Glazebrook and Shaw.

## PART III.

For Mechanical and Electrical Engineering Students.

A course of about 40 lectures on Applied Electricity.

For Science Students.

Courses of one lecture a week each on Mathematical Physics, General Experimental Physics, and Electricity.

Courses of reading are prescribed for both Pass and Honour Students.

*Practical Work.*

For Engineering Students: About 120 hours in the laboratory.

For Science Students: A minimum of 15 hours per week in the laboratory.

## FACULTY OF ENGINEERING—DEGREE OF B.E.

Professor Gibson,\* Mr. Hawken, and Mr. Weston.

**XXI. DESCRIPTIVE GEOMETRY.**

## FIRST YEAR.

A Course of 10 Lectures and 30 Hours Practical Work in Drawing Office.

Scales, Constructions relating to Straight Lines, Polygons, Circles, and Circular Arcs, Conic Sections, Cycloidal Curves, Involutives and Spirals. Principles of Orthographic Projection. Elementary Problems on Straight Lines and Planes. Projections of Solids. Interpenetration of Solids. Development of Surfaces. Construction of Paper Models. Isometric and Oblique Projection. Principles of Perspective Drawing.

*Text-book.*

The Theory of Engineering Drawing (Adler).

*Reference Books.*

Descriptive Geometry (Moyer).

Practical Plane and Solid Geometry for Advanced Students (Harrison and Baxandall).

**XXII. ENGINEERING DRAWING AND DESIGN.**

## PART I.—FIRST YEAR.

A Course of 30 Lectures.

Object of Machine Design. Mechanical Development and Specification. Theory and Production. Calculations. Notes and Records. Method of Design. Sketches. Analysis of Construction and Forces. Theoretical Design. Practical Modifications. Plans and Specifications.

Constructive Mechanics. Forces and Moments. Beams. Diagrams of Bending Moment and Shearing Forces. Cantilever. Concentrated and Distributed Load. Beam supported at ends—any arrangement of loads. Tension. Compression and Torsion. Discussion of formulae— $f = \frac{P}{A}$  ;  $M = \frac{fI}{y}$ . Working Stresses.

Materials—their uses and properties. Lubrication.

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\* Absent on Military Duty.

Fastenings—Bolts, Studs, &c. Keys, Pins, and Cotters. Shafts and Couplings. Friction Clutches. Journals. Bearings. Belts. Pulleys. Toothed Wheels. Riveted Joints. Pipes and Flanges.

*Drawing Office.*—A Course of 180 Hours.

Lettering and Printing. Drawing of Details from Working Drawings. Sketching of Machine Parts. Preparation of Tracings.

*Text-books.*

Machine Design (Griffin).

Machine Design, Construction, and Drawing (Spooner).

*Reference Books.*

Mechanical Engineering (Lineham).

Mechanical Engineer's Pocket Book (Kent).

PART II.—SECOND YEAR.

Drawing Office—A Course of 150 Hours.

Designing and Making Complete Working Drawings of Details, such as—Crane Hook, Plummer Block, Stop and Safety Valves, Cocks, Thrust Bearings, Wall Brackets, &c.

Complete Design of a Simple Vertical or Horizontal Steam Engine covering general arrangement and detail drawings.

The Lecture Courses for the above work are included in the Courses in Heat Engines I. and Applied Mechanics.

PART III.—THIRD YEAR.

Drawing Office—240 Hours.

Design and Complete Working Drawings of a Small Structure, such as a Travelling Gantry, Lifting Footbridge, Wharf Crane, Tower for Small Suspension Bridge, &c.

The student is expected to acquire a working knowledge of construction and drawing of details of joints and members for working conditions, the types of examples set having this object rather than the compilation of stress sheets.

The Lecture Course is included under Civil Engineering, Part I.



## PART IV.—FOURTH YEAR.

## A.—CIVIL ENGINEERING.

The Design and Specification of an Engineering Scheme (or portion of such), such as Road or Railway Bridge, Filter Beds for Water or for Sewage, Dry Dock, Aeroplane Shed, High Building, &c.

The Lecture Course is included under Civil Engineering.

## B.—MECHANICAL AND ELECTRICAL ENGINEERING.

The Design of Mechanical and Electrical Machinery and the lay out of Power Plants and Generating Stations and Preparation of Specifications.

**XXIII. APPLIED MECHANICS.**

## SECOND YEAR.

A Course of 40 Lectures.

(a) *Mechanics*: Constrained Motion, Relative Motion, Instantaneous or Virtual Centres. Centrode and Axode, Relative Velocities of Points and Bars in Mechanisms, Steam Engine Mechanism and its Inversions, Principle of Virtual Velocities applied to Mechanisms, Velocity and Acceleration Curves, Velocity Diagrams. Toothed Gearing, Wheel Trains, Epicyclic Trains.

(b) *Dynamics of the Steam Engine*: Influence of Short Connecting Rods, Correction of Indicator Diagrams for Inertia, Pressure on Crankpin, Cushioning, Twisting Moment Diagrams, Twisting Moment on Crankshaft, Flywheels, Coupling Rods, Connecting Rods. Balancing. Friction, Journals and Bearings, Lubrication. Governors.

(c) *Elasticity*: Stress and Strain, Characteristics of Materials, Shearing Forces, Compound Stresses. Strength of Cylinders under Internal Pressure, Lamé's Theory.

(d) *Beams*: Bending Moments and Shearing Force Diagrams, Modulus of Section, Neutral Axis, Unsymmetrical Sections, Sections of Uniform Strength, Slope and Deflection of Beams. Combined Bending and Direct Stresses.

(e) *Columns*: Long and Short Columns, Euler's Formulæ, Gordon Formulæ.

(f) *Torsion*: General Theory, Shafts, Polar Modulus for Circular Sections, Strength of Shafts in Torsion, Twisting of Shafts, Torsionmeters. Whirling of Shafts. Springs.

**APPLIED MECHANICS LABORATORY.**

A Course of 80 Hours.

Measurements of Efficiency and Mechanical Advantages of Simple Machines, such as Screwpress, Pulley Block, Differential Pulley, Worm Wheel Crab, and Hydraulic Jack. Measurements of Friction Coefficients. Energy of Flywheel. Stresses in Simple Framed Structures. Simple Hydraulic Measurements. Fluid Friction. Characteristics of Lubricants. Calibration of Gauges. Balancing Four Crank Engine. Tension and Compression Tests of Small Specimens.

*Text-book.*

Goodman: Mechanics Applied to Engineering.

*Reference Books.*

Reuleaux: The Constructor.

Kennedy: Mechanics of Machines.

Heat Engines (Inchley).

Church: Mechanics of Engineering.

Cotterill: Applied Mechanics.

Dalby: Balancing.

Warren: Engineering Construction in Steel and Timber.

**XXIV. HEAT ENGINES.****PART I.—SECOND YEAR.**

Professor Gibson and Mr. Weston.

A Course of 60 Lectures and 80 Hours' Laboratory Practice.

*Lecture Course.*

Short History of the Development of Heat Motors. Elementary Theory of Heat Engines. Laws of Thermodynamics. Cycle of Operations of the Working Substance in a Heat Engine. Laws of Permanent Gases. Work Done by an Expanding Fluid. Adiabatic Expansion. Isothermal Expansion. Carnot's Cycle of Operations. Efficiency of Carnot's Cycle. Reversed Carnot's Cycle. Efficiency of a Perfect Heat Engine. Hot Air Engine Cycle.

Properties of Steam. Elementary Theory of the Steam Engine. Rankine's Cycle. Indicators. Indicator Diagrams. Hypothetical Diagrams. Diagram Factor. Cylinder Condensation. Jacketing. Ratio of Expansion. Two and Three Stage Expansion.

Combined Diagrams. Slide Valves and Valve Setting. Valve Diagrams (Zeuner, Wave Form). Reversing Gears. Expansion Valves.

Design of a Compound Steam Engine in Detail. Sizes of Cylinders for a given Indicated Horse Power. Crankshafts. Connecting Rods. Piston Rods. Pistons. Glands and Stuffing Boxes. Cylinders. Ports and Passages. Valves. Covers. Bed Plates and Framings. Bearings. Eccentrics, &c.

The Steam Turbine. Impulse Types. Reaction Types. Flow of Fluid through Nozzles. Angles of Blades and Nozzles. Exhaust Turbines.

The Testing of Steam Engines and Boilers for Efficiency. Fuels. Combustion. Boilers (Fire and Water Tube). Leading Types and their Relative Suitability for various purposes. Transmission of Heat through Plates. Grate Surface. Heating Surface. Details of Construction. Riveted Joints. Stayed Surfaces. Stays. Furnaces. Chimneys. Fittings and Mountings. Board of Trade and Lloyd's Requirements. Maintenance and Operation.

Mechanical Refrigeration. Compressors. Air Compressors. Cold Air Engines.

Internal Combustion Engines. Cycles of Operation. Leading Types of Gas Engines. Suction Gas Plants. Producers. Oil Engines (for refined and crude oils). Petrol Engines. Power Ratings. Testing of Gas and Oil Engines for Efficiency.

#### *Laboratory Course.*

Drawing the Valve Diagrams and Setting the Valves of a Simple Engine with D and Piston Type Valve. Meyer Expansion Valve. Link Motions.

Use of Indicator and Brakes. Tests of Steam and Gas Engines for Mechanical Efficiency.

Preliminary Tests for Evaporative Capacity of Boilers. Steam Consumption Tests of an Engine.

#### *Text-books.*

Heat Engines (Inchley).  
 Steam and other Engines (Duncan).  
 Heat Engines (Garratt).  
 Mechanical Engineering (Lineham).  
 Pocket Book of Marine Engineering Rules and Tables (Seaton and Rounthwaite).

*Reference Books.*

The Steam Engine and other Heat Engines (Ewing).  
 Applied Thermodynamics (Ennis).  
 History of the Steam Engine (Thurston).  
 Steam Tables (Marks and Davis).  
 Steam Boilers (Parsons).

## PART II.—THIRD YEAR.

A Course of 60 Lectures with Laboratory Practice.

Advanced Theory of Heat Engines. Thermodynamic Surface. Pressure Volume Path of Perfect Gases. Entropy. Entropy Temperature Diagrams. Mollier's Diagrams for Steam (Entropy—total heat pressure—total heat). Conditions affecting Economy. Cyclical Flow of Heat in the Metal Cylinder Walls of Heat Engines. Detailed Consideration of Heat Losses. Standard Methods of Conducting Engine and Boiler Trials. Detailed Analysis of Data obtained from Trials.

Boiler-house Plant. Further Details with regard to Boilers. Superheaters. Economisers. Flues and Chimneys. Forced Draught. Fuel and Gas Analysis. Smoke Abatement. Pressure. Draught and CO<sub>2</sub> Recorders. Mechanical Stokers. Feed Pumps. Injectors. Piping Arrangements.

Further Consideration of Types of Steam Engines. Corliss Valve Gear. Drop Valve Gear.

Further Consideration of Steam Turbines. Conversion of Heat into Velocity. The Turbine Cycle. Practical Losses. Effect of Vacuum and Superheat. Rate of Flow. Efficiency in directing Velocities. Design of Impulse and Reaction Turbines. Commercial Types and Applications.

Jet Condensers. Surface Condensers. Tube Surface. Surface Section Ratio. Cooling Towers. Evaporative Condensers. Air Pumps. Wet and Dry Systems. Types (Edwards, Leblanc, Kinetic, &c.).

Mechanical Refrigeration. Air Machines. Vapour Compression Machines. The Cycle. Choice of Fluid. Tonnage Rating. Compressors—various types of machines—absorption system.

Compressed Air. The Cold-air Engine. Cycle. Temperature Fall. Preheaters. The Compressor. Cycle. Form of Compression Curve. Jackets. Multi-Stage Compression. Intercooling. Relation of Engine and Compressor. Losses. Efficiency. Design of Compressor. Commercial Types.

Internal Combustion Engines. Fuels. Gas Producers (Pressure and Suction). Action in the Producer. Producer Efficiency. Comparison of Gas Engine Cycles. Mixture. Compression. Ignition. Expansion. Scavenging. Standard Reference Diagram. Diagram Factor. Principles of Design and Efficiency. Governing. Commercial Internal Combustion Engines. Humphrey's Internal Combustion Pump. Results and Analysis of Tests.

*Text-books.*

Heat Engines (Inchley).  
Applied Thermodynamics for Engineers (Ennis).  
Gas Engine Design (Lucke).

*Books for Reference.*

Manual of the Steam Engine (Thurston).  
Marine Engines and Boilers (Bauer and Robertson).  
The Steam Turbine (Neilson).  
Modern Refrigerating Machinery (Lorenz, Pope, Haven, and Deane).  
Internal Combustion Engines (Carpenter and Diederichs).  
Compressed Air (Hiscox).  
The Gas, Petrol, and Oil Engine (D. Clerk).

**XXV. CIVIL ENGINEERING.**

INCLUDING MATERIALS TESTING AND ENGINEERING DESIGN.

PART I.—THIRD YEAR.

Professor Gibson and Mr. Hawken.

70 Hours' Lectures and 250 Hours' Laboratory and Drawing Office Work.

The course, which includes Materials, Structures, and General Construction, is to be taken by all students in each of the departments—Civil, Mining, Mechanical and Electrical.

More advanced and exhaustive treatment is reserved for Fourth Year Civil Engineering.

When the demand arises, it is hoped that Specialist Courses in Civil Engineering may be arranged for a Fifth Year in the several branches: Structures, Railways, Hydraulic and Sanitary, Higher Surveying.

*Materials.*—Investigation of strains and stresses, tensile, compressive, bending, torsion; fundamental formulæ and measurements. Properties of cast iron, wrought iron, steel, alloys, stones, limes, mortars, brick, cement, concrete, timber (especially Australian), other engineering materials.

Various tests and testing machines, experimental data, average values, and modifications to be expected, micro-photography. Laboratory practice supplemented by study of standard results.

*Structures.*—A knowledge of Engineering Mechanics covered by the second year syllabus is assumed. Students are expected to become familiar with the principles of theory and design of the more simple structures, and to acquire a thorough knowledge of design of details of members and joints; also, to practise the drawing up of specifications and estimates of costs.

*Beams and Girders.*—Position of moving loads for maximum bending moment and for maximum shear, moment of resistance, neutral axis, modulus of rupture, distribution and intensity of shear. Factors of safety, working stresses. Sizes and shapes to resist various stresses. Joints and connections, general features and details of design. Graphical and analytical methods of analysis. Stiffness of beams. Beams of uniform strength. Introduction to continuous girder theory and design.

*Framed Structures.*—Analysis of loads, dead load, wind and other live loads, conventional assumptions; empirical and other formulæ.

Stresses in members, outline summary of methods of investigation, graphic methods, analytic methods. Various types of roof and other trusses, trestles, bracing, three hinged arches; methods suited to each. Sizes and sections best adapted for conditions imposed.

Tension members, compression members, design of joints pin and riveted: a short investigation of theory and design of columns, various formulæ.

Deflection of trusses, effect of shape on stiffness.

*Reinforced Concrete.*—An elementary treatment of principles, experimental data, design of beams and columns.

*Masonry and Monolithic Structures.*—Definitions, fundamental theory of internal stress, limiting pressures, ellipse of stress, earth pressure, water pressure. Design of small dams, weirs, arches, tunnels, piers, retaining walls.

*Foundations.*—Preliminary tests required, safe loads in various strata, tests and preliminary investigations; principles of construction in firm and in heavy ground; foundations for machinery; piles, grills, coffer dams, caissons.

*General Construction.*—An introductory course in several branches. Students are expected to do the reading of descriptive matter on lines indicated in lectures; also, to keep in touch with current engineering literature, and maintain a system of card indexing with regard to their reading.

*Roads.*—Various types in country and city; principles of location, ruling grades, tractive resistance, construction, durability of coverings used; provisions for drainage, principles of maintenance.

*Railways.*—Principles of location; estimates of revenue and maintenance; earthwork, drainage, permanent way; methods of working to ensure safety; interlocking signals; locomotive traction; types of locomotives.

*Water Supply and Sanitary Engineering.*—(Flow of water as applying to water supply and sewerage, pumping machinery, &c., are treated under "Hydraulics.")

Sources of supply above and below ground; amount of water required for various purposes; reservoirs; construction of dams, earth, masonry; headworks, filter beds, theory and design; distribution works, pipe lines and connections, conduits; influence of water supply on health.

Collection and disposal of sewage; sewage farms, discharge into streams or ocean, septic tanks; refuse destructors.

*Harbours and Docks.*—Harbour requirements, river mouths, maintenance of depth, effect of waves and tides; construction of breakwaters; foundations, materials; description of various harbours.

Construction of docks; various appliances, machinery and materials, dock walls, dock entrances, graving and repairing docks, jetties, wharves, piers.

*Text-books.*

Andrews: "Theory and Design of Structures."

Vernon-Harcourt: "Civil Engineering as applied to Construction."

*Reference Books.*

- Warren: "Engineering Construction in Steel and Timber."  
Raymond: "Elements of Railroad Engineering."  
Waddell: "De Pontibus."  
Ketchum: "Steel Mill Buildings."  
Johnson: "Materials of Construction."  
Fidler: "Construction in Mild Steel."

For more detailed and advanced study, see list under "Civil Engineering II."

## PART II.—FOURTH YEAR.

For Students in Civil Engineering only. During this year the student is expected to complete a thesis on an approved subject or a design in construction; encouragement is given, within limits, to original and specialised work.

It is hoped that short courses of lectures by specialists in several of the branches may be arranged.

Instruction will be carried on by the Seminar system which may include formal lectures, but which will mainly endeavour to guide students' reading and practical work, and to fix and amplify the students' knowledge by discussion.

Students are required to read engineering journals and scientific papers bearing on the subjects treated, and to record their work by means of card indexing.

*Materials and Structures.*—Results of recent research, micro-photography of metals, more detailed treatment of strain and stress—redundant members—influence lines.

*Higher Structures.*—Arches without hinges, two-hinged arches, braced arches, suspension bridges, continuous girders, swing bridges, long-span bridges; modern loading and treatment; high buildings; erection stresses. Estimates and costs of work.

*Reinforced Concrete.*—Various applications, pipes, reservoir walls, dock walls, buildings, foundations, advanced theory and design.

*General Construction.*—Bridge piers, location, economic distribution; special foundations, coffer dams, open caisson, cribs, cylinders, deep foundations, methods of sinking, open cribs, dredging, pneumatic caisson, air locks. Theory and practice of pile foundations, screwed piles.



High dam design, curved dams; retaining walls (theory of earth pressure). Masonry arches, definitions, joints of rupture, elastic theory, methods of design, description of various existing types.

*Roads.*—The Good Road Problem, economy of proper alignment and construction, comparison of various coverings, road machinery; various types of drainage openings, principles of maintenance, traffic data. Pavements, drainage foundations, Australian and foreign practice, macadam, asphalt, brick, pitching, wood.

*Tramway.*—Types of traction, construction details, financial data, modern types.

*Railways.*—More detailed study of location; limiting economy of grades, curves, various gauges and types; train resistance; ruling grade; rolling stock and permanent way for various kinds of traffic; points and crossings, interlocking, signals, maintenance. Light railways, narrow-gauge railways, rack and other steep-grade railways.

*Water Supply and Sanitary Engineering.*—Necessity of water service; statistics of requirements and effect on public health; sources of supply, methods of collection, detail investigation of design and headworks and distribution works, measurement of supply. Systems of sewerage, conduit design, details of construction, subsoil drainage, disposal of sewage, disposal of garbage, destructors.

*Rivers, Harbours, and Docks.*—Action of rivers; measurement of discharge, protection of banks; locks, weirs, conservation of water, outlet works, training walls; problems in design; description of various harbours; materials used in construction of works; action of winds, waves, tides; breakwaters, dredging, lighting, coast protection; dock walls, entrances, dock gates, dock machinery, graving docks, wharves.

*Canals, Irrigation.*—Navigation canals, irrigation canals, description of locks and lock machinery; inclines, lifts; irrigation data, principles of irrigation, duty of water. Examples in foreign countries and in Australia.

#### *Reference Books.*

Warren: "Engineering Construction in Steel and Timber."

Morley: "Theory of Structures."

Johnson Bryan and Turneaure: "Modern Framed Structures."

Patton: "Treatise on Civil Engineering."

Baker: "Masonry Construction."

- Patton: "Practical Treatise on Foundations."  
 Cunningham: "Harbour Construction."  
 Colson: "Notes on Dock and Dock Construction."  
 Moore and Silcock: "Sanitary Engineering."  
 Tratman: "Railway Track and Track Works."  
 Wellington: "Railway Location."  
 Turneaure and Russell: "Public Water Supplies."  
 Wilson: "Irrigation Engineering."  
 Buckley: "Irrigation Works in India."  
 Turneaure and Maurer: "Principles of Reinforced Concrete."  
 Marsh and Dunn: "Reinforced Concrete."  
 Byrne: "Highway Construction."  
 Gillette: "Handbook of Costs Data."  
 Merriman: "Civil Engineer's Pocket Book."  
 Inst. C.E.: "British Standard Specifications."

## XXVI. HYDRAULICS.

### PART I.—THIRD YEAR.

Mr. Weston.

FOR STUDENTS IN ALL BRANCHES.

A Course of 20 Lectures and 45 Hours' Laboratory Practice.

#### *Part I—Lecture Course.*

*Fluids at Rest.*—Intensity of pressure:—Pressure at any point in a fluid. Fluids at rest with free surface horizontal. Pressure head. Gauges.

*Floating Bodies.*—Conditions of equilibrium—Archimedes' Principle. Centre of buoyancy. Stability. Metacentre, stability of ships.

*Fluids in Motion.*—Steady motion. Stream-line motion. Definitions. Bernouilli's Theorem. Venturi meter. Extension of Bernouilli's Theorem.

*Flow of Water through Orifices and over Weirs.*—Coefficients. Various types of orifices. Notches and weirs. Derivation of equations. Thomson's principle of similarity. Empirical constants. Various forms of weirs. Recent research.

*Flow through Pipes.*—Losses. Hydraulic gradient. Hydraulic mean depth. Slope. Empirical formulæ.

*Hydraulic Machines.*—General: Impact of water on vanes. Water wheels. Turbines—reaction turbines—outward, inward, and axial flow. Design of vanes and blades. Calculation of losses and efficiency. Application of Bernouilli's Equations. Regulation of turbines. Choice of turbines. Impulse wheels. Pelton wheels.

*Pumps.*—Reciprocating pumps, plunger type and ram type. Centrifugal pumps and turbine pumps—general considerations, forms of vanes—design for a given discharge. Centrifugal head impressed on water. Losses in pumps. Efficiency of centrifugal and turbine pumps.

*Internal Combustion Pumps.*—Principles of action and general description of existing types. Hydraulic ram. Lifting water by compressed air.

*Laboratory Practice.*

Calibration of triangular and rectangular notches. Deduction of constants for various forms of orifices under various heads. Tests of centrifugal pumps. Test of Pelton wheel. Calibration of water meters. Tests of Francis turbine. Tests of reciprocating pumps, ram and plunger type. Flow of water in pipes and in an open channel.

*Text-book.*

Lea: "Hydraulics."

*Reference Books.*

Unwin: "Treatise on Hydraulics."

Merriman: "Treatise on Hydraulics."

Bovey: "Hydraulics."

Gibson: "Hydraulics."

Church: "Hydraulic Motors."

Butler: Modern Pumping and Hydraulic Machinery.

PART II.—THIRD YEAR.

Mr. Hawken.

FOR STUDENTS IN CIVIL ENGINEERING.

A course of 10 Lectures and 30 Hours' Laboratory and Field Practice.

Flow of water in pipes and in open channels. Short account of development of various theories; results of experimental research;

various formulæ proposed—modifications of actual conditions. Measurements of stream discharge—floats; current meters; water meters. Flow round river bends. Changes of level due to obstructions—the backwater function. Hydraulics of wells.

#### LABORATORY AND FIELD WORK.

Channel Experiments—Pipe Experiments—Effects of Bends—River Discharge, Measurements, Cross Sectioning, Use of Floats, &c.—Current Meter.

##### *Reference Books.*

Ganguillet and Kutter: "Flow of Water in Open Channels."  
 Moore and Silcock: "Sanitary Engineering."  
 Fidler: "Calculations in Hydraulic Engineering."  
 Gibson: "Hydraulics."  
 Turneure and Russell: "Public Water Supplies."  
 Merriman: Hydraulics.

### XXVII. SURVEYING.

#### PART I.—THIRD YEAR.

Mr. Hawken.

A course of 60 Lectures and 125 Hours' Field and Office Work. To be taken by students of the third year in all departments. Students are expected to acquire a working knowledge of the various instruments, and especially familiarity by constant practice with use and adjustments of the level and theodolite, together with the calculations pertaining; also, with the keeping of field records systematically and correctly.

Principles and practice of chaining with chain, tapes, and long wires; corrections for sag, temperature, &c. Slope chainage and computations; surveys with chain alone.

Methods used in surveying for locating points. Short history of the art of surveying. Theory and description of various instruments with their adjustments (compass, theodolite, level, plane-table, barometer, clinometer); calculations pertaining to surveying. Drawing office instruments, plotting, and plan drawing. Elementary stadia survey. Railway location curves, transition curves.

Earthwork and calculations of volumes; estimates of cut and fill; prismoidal formulæ, application and modifications; cross sections; contour lines.

Solution of simple problems in land survey and engineering.

Elementary field astronomy; location of meridian and use to check survey.

Elementary mine surveying, including mine surveying problems and special methods on the surface and below; transfer of the meridian below ground; tunnel alignment; survey of bore holes.

Practice work throughout the year is essential, and students in Civil Engineering and Mining will go into the field during vacation between third and fourth years.

*Text-book.*

Middleton and Chadwick: "A Treatise on Surveying."

*Reference Books.*

Cardew: "Pocket Manual of Surveying."

Wells and Clay: "Field Engineer's Handbook."

Park: "Theodolite Surveying and Levelling."

Brough: "Treatise on Mine Surveying."

Harris: "Australian Handbook for Government Surveyors."

Johnson and Smith: "Theory and Practice of Surveying."

Boulton: "Practical Coal Mining" (surveying portion).

PART II.—FOURTH YEAR.

Mr. Hawken.

To be taken by Civil Engineering students. The course will cover the ground required by an authorised surveyor.

Reconnaissance survey; refinements of survey work; tacheometry, topographical survey; curve ranging; setting out; levelling; extended practice with instruments; barometrical levelling; hypsometry; land surveying problems; conditions, Australian and foreign; city surveying; identification survey; subdivision of lands. Earthwork volumes, calculation tables.

Field astronomy, determination of latitude, azimuth and time by the several methods; elementary geodesy, convergence of meridians; correction of surveys; least squares; projection of maps; systems of keeping field records, plotting and drawing. Hydrographic surveying, the three-point problem, location of soundings.

*Reference Books.*

Park: "Theodolite Surveying and Levelling."

Crandall: "Geodesy and Least Squares."

Gribble: "Preliminary Survey and Estimates."

Doolittle: "Practical Astronomy."

Middleton and Chadwick: "A Treatise on Surveying."

Hayford: "Text Book on Geodetic Astronomy."

Merriman: "Precise Surveying and Geodesy."

Briggs: "The Effects of Errors in Surveying."

The Instructions and Regulations of the various Australasian States.

**XXVIII. BUILDING CONSTRUCTION AND ARCHITECTURE**

## THIRD YEAR.

For Students in Civil Engineering.

The Central Technical College will arrange for this Course in connection with the work of the College.

## BUILDING CONSTRUCTION.

Foundations.—Foundations for various soils, reinforced foundations, pile foundations.

Brickwork.—Limes and cement, various bonds, hollow walls, &c.

Stonework.—Constituents of building stones, Queensland building stones, different kinds of masonry work, construction of masonry work, cornices, &c.

Carpentry.—Australian building timbers, construction of floors, roofs, partitions, &c.

Joinery.—Doors, windows, skirtings, panelling, jamb linings, staircases, &c.

Iron and Steel Work.—Girders, roof principals, columns and stanchions, fire protection in buildings.

Plumbing.—Plumbing in connection with buildings, sanitary plumbing.

Drainage.—Laying of drains, manholes, various kinds of traps, &c.

## HISTORY OF ARCHITECTURE.

Features of the following styles, with considerations of prominent examples of them:—

Egyptian and Assyrian, Greek, Roman, Byzantine, Romanesque, Early English Gothic, Decorated Gothic, Perpendicular Gothic, and Renaissance.

**XXIX. ELECTRICAL ENGINEERING.**

## FOURTH YEAR.

Mr. Weston.

[A].—A course of 30 Lectures and 60 Hours' Laboratory Practice for fourth year Civil and fourth year Mining Engineers.

Construction of direct and alternating current generators and motors, characteristics of various types, and applicability for different purposes, rotary converters, boosters, transformers, switchgear, controllers' instruments, direct and alternating current distribution systems, storage batteries and their operation, lighting, wiring, fire underwriters' regulations.

## LABORATORY COURSE.

Switchboard operation, testing of machines for efficiency, heating and regulation, calibration of instruments, location of faults.

*Text-book.*

Standard Handbook for Electrical Engineers (McGraw, publisher).

Mr. Weston.

[B].—A course of 60 Lectures and 180 Hours' Laboratory Practice for fourth year Electrical and Mechanical Students.

Design of direct and alternating current generators and motors, static transformers, converters, power station layouts, distribution systems, electric traction, storage battery engineering, lighting, cable laying and wiring, preparation of estimates and specifications.

## LABORATORY COURSE.

Separation of losses in machines, efficiency, temperature, and regulation tests of direct current, single phase, and polyphase machines and transformers, calibration of instruments, synchronising and resonance effects, oscillograph tests, cable testing, lamp testing.

*Text-books.*

Continuous Current Dynamo Design: Hobart.

Alternating Current Motors: McAllister.

Electric Railway Engineering, Parshall and Hobart.

Electric Distributing Networks: Hay.

Electric Journals and Journal of Institution of Electrical Engineers.

**XXX. MECHANICAL ENGINEERING.**

## FOURTH YEAR.

Professor Gibson and Mr. Weston.

For Students in Mechanical and Electrical Engineering only.

During this year the student will be required to complete a thesis on an approved subject or the design of some selected mechanical or electrical plan or apparatus: encouragement is given within limits to original and specialised work.

Instruction will be carried on by the Seminar system, which will endeavour mainly to guide students' reading and practical work and fix and amplify the students' knowledge by discussion. Some formal lectures will also be given by the staff and by honorary lecturers who are specialists in some particular line of engineering.

Joint sessions with the Civil Engineering Seminar will occasionally be held to discuss topics of common interest.

The scope of the work will include the design of generating stations, economics of power generation, methods of testing boilers, steam plant, internal combustion engines, refrigerating plants, air compressor pumps, turbines, preparation of estimates, organisation, cost of production, and the commercial aspect of engineering generally.

A considerable portion of the students' time will be spent in carrying out tests of steam plant, boilers, internal combustion engines, refrigerating plants, &c., and in investigating special problems in connection therewith.

Students are required to read engineering journals and scientific papers bearing on the subjects treated and to record their work by card indexing.

The results of all investigations and tests carried out by the student are required to be presented in the form of precise reports which are preserved as a record of the year's work.



**DIPLOMA IN MECHANICAL AND ELECTRICAL  
ENGINEERING.**

SYLLABUS.

FIRST YEAR.

- (a) Mathematics.
- (b) Mechanical Drawing.

**MATHEMATICS.**

*Algebra*: As for the University Junior Public Examination with the following additional:—The Three Progressions: The Properties and Use of Logarithms.

*Geometry*: As for the University Junior Public Examination, with the following additional:—Ratio and Proportion, Loci, Inverse Points, Elementary Solid Geometry.

*Trigonometry*: Up to and including solution of triangles.

**MECHANICAL DRAWING.**

*Lecture Courses.*

(a) Descriptive Geometry: Scales, Constructions Relating to Straight Lines, Polygons, Circles, and Circular Arcs, Conic Sections, Cycloidal Curves, Involutives, and Spirals. Principles of Orthographic Projection. Elementary Problems on Straight Lines and Planes. Projections of Solids. Interpenetration of Solids. Development of Surfaces. Isometric and Oblique Projection. Principles of Perspective Projection.

(b) Object of Machine Design. Mechanical Development and Specification. Theory and Production. Calculations. Notes and Records. Method of Design. Sketches. Analysis of Construction and Forces. Theoretical Design. Practical Modifications. Plans and Specifications. Constructive Mechanics. Forces and Moments. Beams. Diagrams of Bending Moment and Shearing Forces. Cantilever. Concentrated and Distributed Load. Beam Supported

at ends—any arrangement of loads. Tension. Compression and Torsion. Discussion of formulæ— $f = \frac{P}{A}$ ;  $M = \frac{fL}{y}$ . Working Stresses. Materials—their uses and properties. Lubrication. Fastenings—Bolts, Studs, &c. Keys, Pins, and Cotters. Shafts and Couplings. Friction Clutches. Journals. Bearings. Belts. Pulleys. Toothed Wheels. Riveted Joints. Pipes and Flanges.

*Drawing Office Practice.*

(c) Descriptive Geometry: Students should complete a series of exercises illustrative of the problems considered in class work.

(d) Drawing: Lettering and printing. Drawing of details from working drawings. Sketching of machine parts. Preparation of tracings.

(e) Advanced drawing of machine details and assemblies.

(f) Design of a simple machine in detail.

In the first two years of the course Parts (a), (c), and (d) should be covered.

In the third year Parts (b) and (e) should be covered and in the fourth year Part (f).

*Text-books.*

Machine Design (Griffin).

Machine Design, Construction, and Drawing (Spooner).

*Reference Books.*

Mechanical Engineering (Lineham).

Mechanical Engineer's Pocket-book (Kent).

SECOND YEAR.

(a) Applied Mathematics.

(b) Physics.

(c) Mechanical Drawing.

**APPLIED MATHEMATICS.**

*Kinematics*: Displacement, Velocity, Acceleration. Motion of Particle in Straight Line with Constant Acceleration. Acceleration due to Gravity. Elementary Theory of Vectors with Special Application to Composition of Displacement, Velocity, Acceleration.

Motion of Particle with Constant Acceleration in Direction Oblique to Path. Angular Velocity and Acceleration. Motion in a Circle. Simple Harmonic Motion.

*Kinetics*: The Laws of Motion. Mass, Momentum, Force, Work, Energy, Power. Conservation of Linear Momentum and Conservation of Energy. Collisions. Simple Pendulum. Conical Pendulum.

*Statics*: Reduction of a System of Forces in a Plane. Friction. Mass Centres. Equilibrium of Rigid Bodies in a Plane.

*Hydrostatics*: Fluid Pressure. Centre of Pressure. Conditions of Equilibrium of Floating Bodies. Stability for Non-rational Displacements. The Gas Laws.

### PHYSICS.

*Physics I.*: As for University Junior Public Examination, with experimental work.

*Physics II.*: As for University Senior Public Examination, with experimental work.

### THIRD YEAR.

- (a) Physics.
- (b) Applied Mechanics.
- (c) Mechanical Drawing.

### APPLIED MECHANICS.

#### *Lecture Course.*

Definition of a Machine. Steam Engine Mechanism and its Inversions. Velocity Diagrams. Toothed Gearing. Dynamics of the Steam Engine. Indicator Diagrams. Correction of Indicator Diagrams for Inertia. Twisting Moment Diagrams. Flywheels. Governors. Elements of Balancing. Friction of Journal and Bearings. Lubrication.

Stress and Strain. Characteristics of Materials. Shearing Forces. Bending Moments. Diagrams of Bending Moment and Shearing Force. Neutral Axis. Modulus of Section. Deflection of Beams. Long and Short Columns. Straight Line Formulæ. Torsion of Shafts. Polar Modulus for Circular Sections. Springs.

*Laboratory Course.*

Measurements of Efficiency and Mechanical Advantage of Simple Machines, such as Screw Press; Pulley Blocks; Differential Pulley Worm and Wheel; Geared Crane; Hydraulic Jack.

Measurement of Friction Co-efficients. Energy of Flywheel. Deflection of Springs. Simple Tests of Materials in Tension, Compression, and Cross Breaking. Deflection of Beams.

Simple Hydraulic Measurements. Calibration of Gauges, Spring Balances, &c.

*Text-book.*

Goodman: Mechanics Applied to Engineering.

## FOURTH YEAR.

- (a) Heat Engines.
- (b) Electrical Engineering.
- (c) Machine Design and Drawing.

**HEAT ENGINES.**

A Course of 60 Lectures and 80 Hours' Laboratory Practice.

*Lecture Course.*

Short History of the Development of Heat Motors. Elementary Theory of Heat Engines. Laws of Thermodynamics. Cycle of Operations of the Working Substance in a Heat Engine. Laws of Permanent Gases. Work done by an Expanding Fluid. Adiabatic Expansion. Isothermal Expansion. Carnot's Cycle of Operations. Efficiency of Carnot's Cycle. Reversed Carnot's Cycle. Efficiency of a Perfect Heat Engine.

Properties of Steam. Elementary Theory of the Steam Engine. Rankine's Cycle. Indicators. Indicator Diagrams. Hypothetical Diagrams. Diagram Factor. Cylinder Condensation. Jacketing. Ratio of Expansion. Two and Three Stage Expansion. Combined Diagrams. Slide Valves and Valve Setting. Valve Diagrams (Zeuner Wave, form). Reversing Gears. Expansion Valves.

Design of a Compound Steam Engine in Detail. Sizes of Cylinders for a given Indicated Horse Power. Crankshafts. Connecting Rods. Piston Rods. Pistons. Glands and Stuffing Boxes.

Cylinders. Ports and Passages. Valves. Covers. Bed Plates and Framings. Bearings. Eccentrics, &c. The Steam Turbine. Impulse Types. Reaction Types. Flow of Fluid through Nozzles. Angles of Blades and Nozzles. Exhaust Turbines.

The Testing of Steam Engines and Boilers for Efficiency.

Fuels. Combustion. Boilers (fire and water tube). Leading Types and their Relative Suitability for Various Purposes. Transmission of Heat through Plates. Grate Surface. Heating Surface. Details of Construction. Riveted Joints. Stayed Surfaces. Stays. Furnaces. Chimneys. Fittings and Mountings. Board of Trade and Lloyd's Requirements. Maintenance and Operation.

Air Compressors. Cold-air Engines. Hot-air Engines.

Internal Combustion Engines. Cycles of Operations. Leading Types of Gas Engines. Suction Gas Plants. Producers. Oil Engines (for refined and crude oils). Petrol Engines. Power Ratings. Testing of Gas and Oil Engines for Efficiency.

*Laboratory Course.*

Drawing the Valve Diagrams and Setting the Valves of a Simple Engine with D and Piston Type Valve. Meyer Expansion Valve. Link Motions. Use of Indicator and Brakes. Tests of Steam and Gas Engines for Mechanical Efficiency.

Preliminary Tests for Evaporative Capacity of Boilers. Steam Consumption Tests of an Engine.

*Text-books.*

Heat Engines (Inchley).  
 Steam and Other Engines (Duncan).  
 Mechanical Engineering (Lineham).  
 Pocket-book of Marine Engineering Rules and Tables (Seaton and Rounthwaite).

*Reference Books.*

The Steam Engine and other Heat Engines (Ewing).  
 Applied Thermodynamics (Ennis).  
 History of the Steam Engine (Thurston).  
 Steam Tables (Marks and Davis).  
 Steam Boilers (Parsons).

**ELECTRICAL ENGINEERING.**

Dynamos and Motors. Types. Carcase. Armature. Excitation. Commutation. Commutating Poles. Applications of various Types. Alternators. Synchronous Motors. Rotary Converters. Transformers and Induction Motors.

Regulation and Starting. Starters and Controllers.

Distribution. Kelvin's Law. Mains and Branches. Losses. High Tension Mains. Insulators.

Generation. Power Stations. Choice of Plant. Switchboards, Hand-operated and Remote Control. Types of Indicating and Recording Instruments. Substations.

Lighting. Internal Lighting with Incandescent or Arc Lamps. External Lighting. Arc Lamps. Metal Filament Lamps. Vapour Lamps.

Wiring. House Wiring. Casing. Conduits. Fire Underwriters' Regulations. Joints. Cutouts and Switches.

*Laboratory Course.*

Losses in Machines. Efficiency and Regulation. Switchboard operation. Paralleling and Synchronising.

Calibration of Instruments as Voltmeter, Ammeter, Wattmeter, and Watthour Meter.

Jointing of Wires and Cables.

Testing and Adjusting Arc Lamps.

Armature Winding and Former Making.

*Text-book.*

Barr: Electrical Engineering.

## FACULTY OF ARTS.—TIME TABLE OF LECTURES.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	5 to 6.	7 to 8.	8 to 9.	9 to 10.
Monday ..	Pure Math. I. (A and B) Latin II.	Latin I. App. Math. II. Brit. Hist. II. Greek II.	Brit. Hist. I. Logic II.	Logic and Psychol. I. Education	Logic and Psychol. I.	Pure Math. I. Pure Math. II.	App. Math. II. Brit. Hist. I.	App. Math. I.
Tuesday ..	Greek II. App. Math. I. French I.	Greek I. Pure Math. II. Ethics	Const. Hist. French II.	German I. German II. Metaphysics	Economics (Syst.) Latin I.	German I. Brit. Hist. I. Brit. Hist. II.	German I. Brit. Hist. I. Brit. Hist. II.	
Wednesday ..	Anc. Hist. Pure Math. I. A.	Latin I. Latin II.	Greek I. English II.	English I. Logic and Psych. II.	English and II.	Logic and Psych. I. French I.	Logic and Psych. II. French I. and II.	
Thursday ..	Greek II. App. Math. I. French I.	Greek I. Pure Math. II. Brit. Hist. I.	French II. Const. Hist.	German I. German II. Education	Latin I.	German I. Pure Math. II.	Logic and Psych. II. App. Math. II.	
Friday ..	Pure Math. I. (A and B) Latin II.	Latin I. App. Math. II. Brit. Hist. II.	Logic and Psychol. I.	English II. English I.	Econ. Hist. French II.	English II. Pure Math. I.	English I. Brit. Hist. II. App. Math. I.	

**FACULTY OF SCIENCE.—TIME TABLE OF LECTURES AND LABORATORY WORK.**

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
Monday ..	Pure Maths. I. (A and B). Chemistry II. Geology III.	Physics I. Applied Maths. II. Biology II. Biology III.	Chemistry I. Geology II. Logic for 3rd Year Science	Biology II. and III. Physics III. (Engineers attend throughout year).	Chemistry Lab. I. Chemistry Lab. II. Physics and Engineering (Engineers attend 1st and 2nd Terms only).
Tuesday ..	App. Maths. I. Physics I. Chemistry III.	Geology I. Pure Maths. II.	Geology Lab. I. Geology Lab. II.	Geology Lab. I. Geology Lab. II.	Biology I. Biology II. and III. Physics Lab. II. (Engi- neers attend 2nd Term only). Chemistry III., Lecture and Lab. Work for Engineers (1st Term only).
Wednesday ..	Pure Maths. I. (A). Chemistry II. Geology III.	Physics I. Biology III. Chemistry Lab. II. Science and Engineering (Engineers attend 1st and 2nd Terms only).	Biology III. Chemistry I. Chemistry Lab. II. Science and Engineering (Engineers attend 1st and 2nd Terms only).	Biology III. Physics III. (Engineers 2nd Term only). Chemistry Lab. II. Science and Engineering (Engineers attend 1st and 2nd Terms only).	Physics Lab. III. (Engi- neers attend last term only). Physics Lab. I. (1st Term only). Geology Lab. II. (Engi- neers till 4 p.m.).
Thursday ..	App. Maths. I. Physics II. Chemistry III.	Geology I. Pure Maths. II. Logic for 3rd Year Science	Biology II. and III. Chemistry Lab. I.	Chemistry Lab. I. Geology II.	Biology I. II. and III. Physics Lab. II. (Engi- neers attend through- out year).
Friday ..	Pure Maths. I. (A and B). Chemistry II. Geology III.	Physics I. Applied Maths. II. Biology II. Biology III.	Chemistry I. Geology II.	Biology II. and III. Physics II. Physics III.	Physics Lab. III. (Engi- neers attend through- out year). Physics Lab. I. (2nd and 3rd Terms only). Biology II. and III.
Saturday ..	Physics Lab. I.	Physics Lab. I.			



FACULTY OF SCIENCE—EVENING TIME TABLE.

Day.	5 to 6.	7 to 8.	8 to 9.	9 to 10.
Monday ..	Physics I. Chemistry II.	Pure Mathematics I. Chemistry II. (Lab.).	Applied Mathematics II. Chemistry II. (Lab.).	Applied Mathematics I. Chemistry II. (Lab.).
Tuesday ..	..	Pure Mathematics II. Chemistry II. (Lab.).	Chemistry II. (Lab.).	Chemistry II. (Lab.).
Wednesday ..	{ Chemistry II. Physics I.	..	..	..
Thursday ..	..	Pure Mathematics II. Pure Mathematics I.	Applied Mathematics I.	..
Friday ..	{ Chemistry II. Physics I.	..	..	..
Saturday ..	{ 9 to 11 a.m.—Laboratory 9 to 12 Noon ..	Work—Physics I. " Chemistry II.	..	..

**FACULTY OF ENGINEERING.**

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
<b>FIRST TERM.</b>					
<b>MONDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. Chemistry II. Hydraulics I. Hydraulics I. Laboratory Surveying II. ..	Physics I. Mathematics II. Journals Journals Laboratory Survey Drafting ..	Chemistry I. App. Mechanics Lab. Heat Engines II. Journals Geology II. Laboratory Survey Drafting ..	Engineering Design App. Mechanics Lab. App. Electricity Journals Laboratory Survey Drafting ..	Chemistry Lab. I. Chemistry Lab. II. Heat Engines Lab. II. Heat Engines Lab. II. Heat Engines Lab. II. Engineering Design. ..
<b>TUESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. Physics II. Civil Engineering I. Civil Engineering I. Civil Engineering I. .. .. ..	Geology I. Mathematics II. .. .. Mechanical Engineering Seminar Civil Engineering Seminar ..	Geology Lab. I. Mathematics III. Mathematics III. Mathematics III. Mechanical Engineering Seminar Civil Engineering Seminar ..	Geology Lab. I. Heat Engines I. .. Geology Lab. II. .. .. ..	Descriptive Geometry Practical. Drawing and Design. Engineering Chemistry. Engineering Chemistry. Electricity Lab. III. Electricity Lab. III. ..
<b>WEDNESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Chemistry II. Surveying I. Surveying I. Electrical Engineering Engineering Design ..	Physics I. Chemistry Lab. II. Hydraulics Lab. and Materials Test Lab., Alternate Weeks Hydraulics Lab. and Materials Test Lab., Alternate Weeks Hydraulics Lab. and Materials Test Lab., Alternate Weeks Laboratory Engineering Design ..	Chemistry I. Chemistry Lab. II. Hydraulics Lab., Alternate Weeks Materials Test Lab., Alternate Weeks Laboratory Engineering Design ..	Chemistry Lab. II. Chemistry Lab. II. Alternate Weeks Alternate Weeks Laboratory Engineering Design ..	Physics Lab. I. .. .. Geology Lab. II. .. ..

FACULTY OF ENGINEERING—continued.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
<b>FIRST TERM—continued.</b>					
<b>THURSDAY—</b>					
1st Year All	Mathematics I.	Geology I.	Chemistry Lab. I.	Chemistry Lab. I.	Drawing.
2nd Year All	Physics II.	Mathematics II.	Mathematics III.	Heat Engines I.	Physics Lab. II.
3rd Year Mechanical and Electrical	Civil Engineering I.	..	..	..	App. Electricity Lab.
3rd Year Civil	Civil Engineering I.	..	Mathematics III.	Geology II.	Engineering Design.
3rd Year Mining	Civil Engineering I.	..	Mathematics III.	..	Engineering Design.
4th Year Mechanical and Electrical	..	Mechanical Engineering Seminar	Mechanical Engineering Seminar	..	Electricity Lab. III.
4th Year Civil	..	Civil Engineering Seminar	Civil Engineering Seminar	..	Engineering Design.
4th Year Mining	..	..	..	..	..
<b>FRIDAY—</b>					
1st Year All	Mathematics I.	Physics I.	Chemistry I.	Descriptive Geometry	Drawing.
2nd Year All	Chemistry II.	Mathematics II.	App. Mechanics	Heat Engines II.	Drawing and Design.
3rd Year Mechanical and Electrical	Surveying I.	Engineering Design	Engineering Design	..	Practical Surveying.
3rd Year Civil	Surveying I.	Engineering Design	Engineering Design	Engineering Design	Practical Surveying.
3rd Year Mining	..	Electrical Engineering	Geology II.	Laboratory	Practical Surveying.
4th Year Mechanical and Electrical	..	Electrical Engineering	Laboratory	..	Engineering Design.
4th Year Civil	..	..	Engineering Design	Engineering Design	..
4th Year Mining	..	..	..	..	..
<b>SATURDAY—</b>					
1st Year All	Geology Lab. I.	Geology Lab. I.	..	..	..
2nd Year All	..	..	..	..	..
3rd Year Mechanical and Electrical	..	..	..	..	..
3rd Year Civil	Building Construction and Architecture 7-8	..	..	..	..
3rd Year Mining (Thur. Evening)	Geology Lab. II.	Geology Lab. II.	..	..	..
4th Year Mechanical and Electrical	..	..	..	..	..
4th Year Civil	..	..	..	..	..
4th Year Mining	..	..	..	..	..

FACULTY OF ENGINEERING—continued.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
SECOND TERM.					
<b>MONDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. Hydraulics I. Hydraulics I. Laboratory Surveying II.	Physics I. Mathematics II. Journals Laboratory Survey Drafting	Chemistry I. Heat Engines Lab. I. Heat Engines II. Journals Geology II. Laboratory Survey Drafting	Engineering Design Heat Engines Lab. I. App. Electricity Journals Survey Drafting	Chemistry Lab. I. Chemistry Lab. II. Materials Test Lab. Materials Test Lab. Materials Test Lab. Electricity Lab. Materials Test. ..
<b>TUESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. Physics II. Civil Engineering I. Civil Engineering I. Civil Engineering I. .. .. ..	Geology I. Mathematics II. Engineering Design Engineering Design Mechanical Engineering Seminar Civil Engineering Seminar ..	Geology Lab. I. Engineering Design Engineering Design Geology Lab. II. Seminar Civil Engineering Seminar ..	Geology Lab. I. Heat Engines I. Engineering Design Engineering Design Geology Lab. II. .. .. ..	Drawing. Physics Lab. II. Engineering Chemistry. Engineering Chemistry. Engineering Chemistry. Engineering Design Engineering Design. .. ..
<b>WEDNESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Surveying I. Surveying I. Surveying I. Electrical Engineering Engineering Design ..	Physics I. Chemistry Lab. II. Hydraulics Lab. I. Hydraulics Lab. I. Laboratory Engineering Design ..	Chemistry I. Chemistry Lab. II. Hydraulics Lab. I. Hydraulics Lab. I. Laboratory Engineering Design ..	Chemistry Lab. II. App. Electricity Hydraulics Lab. I. Hydraulics Lab. I. Laboratory Engineering Design ..	Heat Engines Lab. I. .. .. Geology Lab. II. .. ..

FACULTY OF ENGINEERING—continued.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
<b>SECOND TERM—continued.</b>					
<b>THURSDAY—</b>					
1st Year All	Mathematics I.	Geology	Chemistry Lab. I.	Chemistry Lab. I.	Drawing.
2nd Year All	Physics II.	Mathematics II.	Engineering Design	Heat Engines I.	Physics Lab. II.
3rd Year Mechanical and Electrical	Civil Engineering I.	Engineering Design	Engineering Design	Engineering Design	App. Electricity Lab.
3rd Year Civil	Civil Engineering I.	Engineering Design	Engineering Design	Engineering Design	Engineering Design.
3rd Year Mining	Civil Engineering I.	Mechanical Engineering	Mechanical Engineering	Geology II.	Engineering Design.
4th Year Mechanical and Electrical	..	Seminar	Civil Engineering	..	Electricity Lab.
4th Year Civil	..	Seminar	Civil Engineering	..	Engineering Design.
4th Year Mining	..	..	Seminar	..	..
<b>FRIDAY—</b>					
1st Year All	Mathematics I.	Physics I.	Chemistry I.	..	Physics Lab. I.
2nd Year All	Survey I.	Mathematics II.	App. Mechanics	..	Drawing and Design.
3rd Year Mechanical and Electrical	Survey I.	Heat Engines Lab. II.	Heat Engines Lab. II.	Heat Engines Lab. II.	Practical Surveying.
3rd Year Civil	Survey I.	General Lab.	General Lab.	General Lab.	Practical Surveying.
3rd Year Mining	Survey I.	Electrical Engineering	Geology II.	Laboratory	Practical Surveying.
4th Year Mechanical and Electrical	..	Electrical Engineering	Laboratory	..	Engineering Design.
4th Year Civil	..	Electrical Engineering	Engineering Design	Engineering Design	Practical Surveying.
4th Year Mining	..	..	..	..	..
<b>SATURDAY—</b>					
1st Year All	Geology Lab. I.	Geology Lab. I.	..	..	..
2nd Year All	..	..	..	..	..
3rd Year Mechanical and Electrical	..	..	..	..	..
3rd Year Civil	Building Construction and Architecture 7-8	..	..	..	..
3rd Year Mining	Geology Lab. II.	Geology Lab. II.	..	..	..
4th Year Mechanical and Electrical	..	..	..	..	..
4th Year Civil	..	..	..	..	..
4th Year Mining	..	..	..	..	..

FACULTY OF ENGINEERING—continued.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
<b>THIRD TERM.</b>					
<b>MONDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. .. .. Hydraulics II. Laboratory Survey Drafting ..	Physics I. Mathematics II. .. Journals Laboratory Survey Drafting ..	Chemistry I. App. Mechanics Heat Engines II. Journals Geology II. Laboratory Survey Drafting ..	Engineering Design App. Electricity Journals Laboratory Survey Drafting ..	Chemistry Lab. I. Heat Engines Lab. I. Engineering Design. Engineering Design. Engineering Design. Materials Test. ..
<b>TUESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Mathematics I. Physics II. Civil Engineering I. Civil Engineering I. Civil Engineering I. .. .. ..	Geology I. Mathematics II. Engineering Design Engineering Design Mechanical Engineering Seminar Civil Engineering Seminar ..	Geology Lab. I. .. Engineering Design Engineering Design Geology Lab. II. Mechanical Engineering Seminar Civil Engineering Seminar ..	Geology Lab. I. Heat Engines I. Engineering Design Geology Lab. II. .. .. ..	Drawing and Design. App. Electricity Lab. Materials Test. Electricity Lab. III. Electricity Lab. III. .. ..
<b>WEDNESDAY—</b> 1st Year All 2nd Year All 3rd Year Mechanical and Electrical 3rd Year Civil 3rd Year Mining 4th Year Mechanical and Electrical 4th Year Civil 4th Year Mining	Surveying I. Surveying I. Electrical Engineering Engineering Design ..	Physics I. App. Mechanics Lab. Survey Drafting Survey Drafting Survey Drafting Laboratory Engineering Design ..	Chemistry I. App. Mechanics Lab. Survey Drafting Survey Drafting Survey Drafting Laboratory Engineering Design ..	App. Mechanics Lab. Survey Drafting Survey Drafting Survey Drafting Laboratory Engineering Design ..	Geology Lab. II. .. .. ..

FACULTY OF ENGINEERING—*continued.*

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
<b>THIRD TERM—<i>continued.</i></b>					
<b>THURSDAY—</b>					
1st Year All	Mathematics I.	Geology I.	Chemistry Lab. I.	Chemistry Lab. I.	Drawing.
2nd Year All	Physics II.	Mathematics II.	Engineering Design	Heat Engines I.	Physics Lab. II.
3rd Year Mechanical and Electrical	Civil Engineering I.	Engineering Design	Engineering Design	Engineering Design	App. Electricity Lab.
3rd Year Civil	Civil Engineering I.	Engineering Design	Engineering Design	Engineering Design	Hydraulics Lab. II.
3rd Year Mining	Civil Engineering I.	Engineering Design	Engineering Design	Geology II.	Engineering Design.
4th Year Mechanical and Electrical	..	Mechanical Engineering	Mechanical Engineering	..	Electricity Lab.
4th Year Civil	..	Seminar	Civil Engineering	..	Engineering Design.
4th Year Mining	..	Seminar	Seminar	..	..
<b>FRIDAY—</b>					
1st Year All	Mathematics I.	Physics I.	Chemistry I.	..	Physics Lab. I.
2nd Year All	Civil Engineering I.	Mathematics II.	App. Mechanics	..	Drawing and Design.
3rd Year Mechanical and Electrical	Civil Engineering I.	Heat Engines II.	General Lab.	General Lab.	Practical Surveying.
3rd Year Civil	Civil Engineering I.	General Lab.	General Lab.	General Lab.	Practical Surveying.
3rd Year Mining	Civil Engineering I.	Electrical Engineering	Geology II.	..	Engineering Design.
4th Year Mechanical and Electrical	..	Electrical Engineering	..	..	..
4th Year Civil	Engineering Design	Electrical Engineering	Engineering Design	Engineering Design	Practical Surveying.
4th Year Mining	..	..	..	..	..
<b>SATURDAY—</b>					
1st Year All	Geology Lab. I.	Geology Lab. I.	..	..	..
2nd Year All	..	..	..	..	..
3rd Year Mechanical and Electrical	..	..	..	..	..
3rd Year Civil	Building Construction and Architecture 7-8	..	..	..	..
3rd Year Mining	Geology Lab. II.	..	..	..	..
4th Year Mechanical and Electrical	..	..	..	..	..
4th Year Civil	..	..	..	..	..
4th Year Mining	..	..	..	..	..

**COMBINED TIME TABLE—ALL FACULTIES.**  
DAY CLASSES.

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.	5 to 6 p.m.
Pure Maths. I. A and B. Latin II. Chemistry II. Geology III. Hydraulics I, 1st and 2nd terms Hydraulics II. 3rd term Mech. and Electrical Lab. Surveying II, 1st and 2nd terms Survey Drafting, 3rd term	Latin I. App. Maths. II. British History II. Greek II. Physics I. Biology II. and III. Journals Mech. and Electrical Lab. Survey Drafting, 1st, 2nd, and 3rd terms	British History I. Logic II. Chemistry J. Geology II. Heat Engines II., 1st, 2nd, and 3rd terms Journals, 1st, 2nd, and 3rd terms Mech. and Electrical Lab. Survey Drafting, 1st, 2nd, and 3rd terms App. Mechanics Lab, 1st and 3rd terms Heat Engines Lab. I., 2nd term App. Mechanics	Logic and Psychol I. Education Biology II. and III. Physics III. Engineering Design, 1st, 2nd, and 3rd terms App. Mechanics Lab. Heat Engines Lab. I. App. Electricity Journals Mech. and Elec. Lab. Survey Drafting only	Chemistry Lab. I. and II. Heat Engines Lab. I. Heat Engines Lab. II. Materials Test Lab. Engineering Design Material Test Electricity Lab.	Logic and Psychol. I. Chemistry II. Physics I.
<b>MONDAY.</b>					



COMBINED TIME TABLE—ALL FACULTIES—*continued.*  
 DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.	5 to 6 p.m.
Greek II. Applied Maths. I. French I. Physics II. Chemistry III. Civil Engineering I., 1st, 2nd, and 3rd terms	Greek I. Pure Maths II. Ethics Geology I. Engineering Design III., 2nd and 3rd terms Graphics Seminar, 4th year Mechanical and Electrical, 1st, 2nd, and 3rd terms Civil Eng. Seminar, 4th year, 1st, 2nd, and 3rd terms	Const. History French II. Geology Lab. I and II. Spherical Trigonometry and Astro- nomy Engineering Design, 2nd and 3rd terms Seminar, 1st, 2nd, and 3rd terms, 4th year Mech. and Electrical Civil Eng. Seminar, 4th year, 1st, 2nd, and 3rd terms	German I. German II. Metaphysics Geology I. and II. Lab. Heat Engines I., 1st, 2nd, and 3rd terms Engineering Design, 2nd and 3rd terms	Biology I., II. and III. Physics Lab. II. Chemistry III. Lecture and Lab. work for Engineers, 1st term only Physics Lab. III. Descrip. Geometry (Practical) Drawing, 2nd and 3rd terms Drawing and Design, 1st and 3rd terms Engineering Chemis- try Electricity Lab. III. Engineering Design App. Electricity Lab. Materials Test	Economics (Syst.) Latin I.
<b>TUESDAY.</b>					

COMBINED TIME TABLE—ALL FACULTIES—*continued.*  
DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.	5 to 6 p.m.
<b>WEDNESDAY.</b>					
Ancient History	Latin I. and II.	Greek I.	English I.	Physics Lab. I., 1st term only	English I. and II.
Pure Maths. I.A.	Physics I.	English II.	Logic and Psych. II.	Geology Lab. II.	Physics I.
Chemistry II.	Biology III.	Biology III.	Biology III.	Heat Engines Lab. I.	Chemistry II.
Geology III.	Chemistry Lab. II.	Chemistry I.	Physics III.		
Surveying, I., 3rd year, 1st, 2nd, and 3rd terms	Applied Mechanics Lab.	Chemistry Lab. II.	Chemistry Lab. II.		
Electrical Engineering	Hydraulics Lab. and Materials Test Lab. (alternate weeks)	Chemistry I.	App. Mechanics Lab.		
Engineering Design IV.	Hydraulics Lab. I.	App. Mechanic Lab., 3rd term	App. Electricity		
	Survey Drafting	Material Test Lab. (alternate weeks)	Survey Drafting		
	Laboratory	Hydraulics Lab. I.	Hydraulics Lab. I.		
	Engineering Design IV.	Survey Drafting IV.	Laboratory IV.		
		Laboratory IV.	Engineering Design IV.		
		Engineering Design IV.			

## COMBINED TIME TABLE—ALL FACULTIES—continued.

## DAY CLASSES—continued.

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.	5 to 6 p.m.
Greek II.	Greek I.	French II.	German I. and II.	Biology I., II. and III.	Chemistry II.
App. Maths. I.	Pure Maths. II. British History I.	Const. History	Education	Physics Lab. II.	Latin I.
French I.	Geology I.	Chemistry Lab. I.	Chemistry Lab. I.	Drawing, 1st, 2nd, and 3rd terms	
Physics II.	Logic for 2nd Year Science	Biology II. and III.	Geology II.	1st year Engineers	
Chemistry III.	Engineering Design III., 2nd and 3rd terms	Spherical Trigonometry and Astronomy	Heat Engines I.	App. Electricity Lab.	
Civil Engineering I.	Graphics Seminar, 4th year Mech. and Electrical Engineers Seminar, Civil Engineering II.	Engineering Design III., 2nd and 3rd terms	Engineering Design III., 2nd and 3rd terms	Engineering Design III., 1st and 2nd terms	
				Hydraulics Lab. II., 3rd term	
				Electricity Lab.	

## THURSDAY.

COMBINED TIME TABLE—ALL FACULTIES—continued.  
DAY CLASSES—continued.

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.	5 to 6 p.m.
Pure Maths. (A. and B.) Latin II. Chemistry II. Geology III. Surveying I., 1st and 2nd terms Civil Engineering I., 3rd term Electrical Engineering, 2nd and 3rd terms Engineering Design IV.	I. Latin I. App. Maths. II. British History II. Physics I. Biology II. and III. Engineering Design IV., 1st term Heat Engines Lab. II. Heat Engines Lab. II. General Laboratory Electrical Engineering Laboratory	Logic and Psychol. I. Chemistry I. Geology II. App. Mechanics Engineering Design IV. Heat Engines Lab. II. General Lab. III. Laboratory IV.	English I. English II. Biology II. and III. Physics II. Physics III. Descrip. Geometry Heat Engines II. Heat Engines Lab. II. General Lab. III. Engineering Design IV. Laboratory	Physics Lab. III. Physics Lab. I., 2nd and 3rd terms only Biology II. and III. Drawing and Design Practical Surveying	Econ. History French II. Chemistry II Physics I.
<b>FRIDAY.</b>					
Physics I. Lab.	Physics I. Lab.	Chemistry II. Lab.	Chemistry II. Lab.		
<b>SATURDAY.</b>					
	Physics I. Lab.	Chemistry II. Lab.	Chemistry II. Lab.		

**COMBINED TIME TABLE—ALL FACULTIES.**  
EVENING CLASSES.

Day.	7 to 8 p.m.	8 to 9 p.m.	9 to 10 p.m.
Monday .. .. .	Pure Maths. I. and II. Chemistry II. (Lab.)	App. Maths. II. British History I. Chemistry II. (Lab.)	App. Maths. I. Chemistry II. (Lab.)
Tuesday .. .. .	Pure Maths. II.	German I. British History I. British History II. Chemistry II. (Lab.)	
Wednesday .. .. .	Logic and Psych. I. French I. Chemistry II. (Lab.)	Logic and Psych. II. French I. and II. Chemistry II. (Lab.)	Chemistry II. (Lab.)
Thursday .. .. .	German I. Pure Maths. II. Building Construction and Architecture 3rd year Civil Engineers, 1st 2nd, and 3rd terms	Logic and Psych. II. App. Maths. II.	
Friday .. .. .	English II. Pure Maths. I.	English I. British History II App. Maths. I.	

**LIST OF SCHOLARSHIPS, EXHIBITIONS, PRIZES, &c.****GOLD MEDALS.**

Two Gold Medals, given by the Government of Queensland, are awarded to Students of any Faculty at Graduation on the recommendation of the Board of Faculties acting on the recommendation of the Faculties, for outstanding merit in any department of the University. 14-7-15.

1916.—No award.

1917.—Ilma Ruby Sterne, Thomas Thatcher.

1918.—No award.

**SCHOLARSHIP FOR THE ENCOURAGEMENT OF ORIGINAL CHEMICAL RESEARCH.**

Established by the Government of Queensland; Annual Value, £100; Tenable for Two Years.

The following conditions for the award of the Scholarship for the Encouragement of Original Chemical Research have been approved:—

1. Candidates for the Scholarship must have completed all the conditions for graduation in the Faculty of Science in the School of Chemistry not more than three years before the award of the Scholarship.

2. The Scholarship shall be awarded on the recommendation of the Professor of Chemistry. The student's record throughout his course and his suitability to carry out research shall be taken into account in making the award, but the Scholarship shall not be awarded to any candidate who has failed to attain a Second Class standard at his Final Honour Examination.

3. The Scholar shall carry out Research in the Chemistry Laboratories of the University under the direction of the Professor of Chemistry.

4. The Scholar shall give such assistance in demonstrating to classes in Chemistry as may be prescribed; such demonstrating shall not exceed the period of six hours per week.

5. Payment of the emoluments of the Scholarship shall be made in three terminal instalments on the certificate of the Professor of Chemistry.

6. The Scholarship shall be tenable for two years, but the continuance for the second year shall be conditional upon the producing of a certificate from the Professor of Chemistry to the performance of satisfactory work by the candidate during his first year.

7. The name of the successful candidate for the Scholarship shall be announced as soon as possible after the results of the Final Honour Examination. .

1914.—George Watson Hargreaves.

1915.—No award.

1916.—Stewart Byron Watkins.

1917.—No award.

1918.—George Cooling.\*

#### SCHOLARSHIPS FOR ENGINEERING.

Established by the Government of Queensland; Two Scholarships, Annual Value of £100 each; Tenable for One Year.

The following conditions for the award of the Scholarships for Engineering have been approved:—

1. There shall be two Scholarships awarded each year to students of the University of Queensland who have fulfilled the conditions for graduation in Engineering, for the purpose of further research and study, provided that there are candidates of sufficient merit.

2. Each Scholarship shall entitle the holder to £100 for a period of one year.

3. The candidates' general suitability, and their record throughout their course at the University, shall be considered when making the award.

4. The scholars shall engage in approved work, submit intermediate reports to the Faculty when required by the Faculty, and a final report embodying results and opinions.

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\* On Active Service.

5. The scholars shall be required to give eight hours per week of their time to the University for demonstration purposes, and shall be entitled to free attendance and use of material at the University.

6. The Scholarships shall be awarded on the recommendation of the Faculty of Engineering. The name of the successful candidates shall be announced as soon as practicable after the results of the final examination.

7. The emoluments of the scholars shall be paid in three terminal instalments on production of certificate of satisfactory work from the Professor of Engineering.

1915.—Alexander Leahy MacIntyre.\*

1916.—No award.†

1917.—No award.†

1918.—No award.†

#### FOUNDATION TRAVELLING SCHOLARSHIP.

Established by the Government of Queensland; Annual Value, £200; Tenable for Two Years.

The following conditions for the award of the Scholarship have been approved:—

1. The Scholarship shall be open to all students of the Faculty of Arts or Science at any time within two and a-half years of the completion of the second year of their course for the Bachelor's Degree, and to students in the Faculty of Engineering at any time within two and a-half years of the completion of the third year of their course for that degree.

2. No one shall be eligible for the Scholarship who has not passed at least two years of his course for the Bachelor's Degree at the University.

3. The Scholarship shall be awarded on the recommendation of the Board of Faculties before the end of the first term in each year. Candidates must send in their applications to the Registrar before the 31st March, and each Faculty shall be asked to report to the Board on all its own

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\* With Gold Medal.

† Owing to war conditions.



**candidates.** In the selection of candidates their whole academic career and general fitness for profiting by further study shall be taken into account.

4. The holder of the Scholarship shall pursue his studies outside Australasia.

5. The candidate must in his application give a general outline of the manner in which he proposes to occupy his time during the tenure of the Scholarship, giving notice of the character of his proposed studies at any learned institution or of his proposed activities in other directions.

6. The holder of the Scholarship must present a satisfactory report to the Board of Faculties each year not later than the 1st September. If he desires to alter his plans materially, he shall announce the proposed change to the Board of Faculties and obtain its approval.

7. Except with the consent of the Senate, on the recommendation of the Board of Faculties, no scholar shall occupy any salaried position or undertake any employment for payment during his scholarship, or take fees for teaching any pupil either publicly or privately.

8. In the event of any infringement of these regulations by the holder of a Scholarship, the Board of Faculties may recommend its discontinuance, and it may be discontinued accordingly.

9. The Scholarship shall not be tenable simultaneously with any other Fellowship or Scholarship which may be held only by a student of the University of Queensland. In regard to Scholarships or Fellowships which are foundations of any other University, the Board of Faculties shall recommend which, if any of them, may be held simultaneously with this Scholarship.

10. If for any reason a Scholarship lapses before or at the end of its first year of tenure, the Senate may at its discretion, on the recommendation of the Board of Faculties, appoint a scholar to hold the Scholarship for the balance of the period or extend an existing Scholarship for a further year.

11. Payment of the emoluments of the Scholarship shall be made quarterly in advance.

*Foundation Travelling Scholar.*

- 1914.—Arthur Blaney Powe.\*  
 1915.—James Lockhart Mursell.  
 1916.—Bevil Hugh Molesworth.  
 1917.—Walde Gerard Fisher.†  
 1918.—Herbert Victor Byth.\*

**FOUNDATION SCHOLARSHIPS.**

The Government of Queensland grants annually twenty Foundation Scholarships, which are open to persons entering the University. They are given upon the result of the Senior Public Examinations, and entitle the holders to free education at the University, together with an allowance at the rate of £26 per annum, if the candidates can live at home and attend the University, or £52 per annum if they have to live away from home to attend the University. They are tenable for three years. Particulars of the conditions laid down in respect of these Scholarships are published annually in the *Queensland Government Gazette*.

**THE THOMAS MORROW PRIZE.**

Founded in 1910 by a gift of £150 from Mr. Thomas Morrow, the annual interest upon which sum is devoted to the providing of a Book Prize for an essay on a subject of purely Australian interest.

*Conditions.*

1. The Thomas Morrow Prize shall be open for competition amongst the Undergraduates of the University.
2. The Prize shall be awarded annually to the author of the best essay on a subject set in rotation from one of the following groups:—
  - (a) Australian literature;
  - (b) Australian exploration and history;
  - (c) Scientific inquiry in Australia.

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\* On Active Service.

† Killed in action, 5th April, 1918.

3. Each essay shall be typewritten. The name of the candidate shall not appear on the essay, but a motto shall be attached thereto. Along with the essay shall be sent a sealed envelope containing the name of the candidate and the motto adopted by him. Such envelope shall not be opened until the essays have been adjudged.

4. The Board of Faculties shall, before the end of the second term in each year, announce the subject of the essay for the following year.

5. The Board of Faculties shall recommend annually to the Senate the Examiners, who, if Professors or Lecturers in the University, shall act accordingly.

6. Essays shall be sent to the Registrar not later than the end of the second term in each year.

7. If in the opinion of the Examiners the competing essays in any year be unworthy of the prize, the prize shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

1912.—No award.

1913.—Margaret Wilhelmina Smith.

1914.—Charles Schindler.

1915.—Hilda Margaret McCulloch.

1916.—No award.

1917.—Roy Graff.

The subject of the essay for 1918.—The Development of the "Bush" Novel.

#### **THE ARCHIBALD SCHOLARSHIP.**

Founded in 1911 by a gift of £500 from the beneficiaries in the estate of the late Honourable John Archibald, M.L.C., to found a yearly Archibald Scholarship.

#### *Conditions.*

1. The said sum of £500 shall form the endowment for a scholarship, to be called "The Archibald Scholarship," and shall be invested as the Senate of the University shall from time to time direct.

2. The Scholarship shall be awarded annually to the author of the best essay on a subject connected with the theory or practical application of Economics.

3. The essay shall be sent to the Registrar, so as to be in his hands before the first day of the Final Honours Examination in Arts in each year.

4. The Archibald Scholarship shall be open to Undergraduates or Graduates of not more than one year's standing, but no such scholarship shall be awarded to any such Undergraduate or Graduate more than once.

5. The Faculty of Arts shall, so soon as may be after the passing of this regulation and thenceforth annually in the month of June, select the subject of the essay for the Archibald Scholarship for the ensuing year.

6. The Board of Faculties shall recommend annually to the Senate Examiners for the Archibald Scholarship, and every Professor or Lecturer so appointed shall act accordingly.

7. If, in the opinion of the examiners, none of the competing essays in any year be worthy of the scholarship, the scholarship shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

1913.—No award.

1914.—James Lockhart Mursell.

1915.—No candidate.

1916.—No award.

1917.—Edward James Droughton Stanley, B.A.

The subject of the essay for 1918.—The Relation of High Wages to Efficiency. (To be established by a detailed study of industrial conditions in some district or industry of Queensland.)

#### **THE LIZZIE HEAL-WARRY PRIZE.**

Founded in 1910 by a gift of £100 from the late Lizzie Heal, wife of the late George L. Warry, Esq., for the

establishment of a University prize, to be provided from the annual interest, and to be called "The Lizzie Heal-Warry Prize."

The interest on the above sum of £100 is utilised for providing a Prize of Books.

The prize is awarded to the First-Year woman student who is most proficient in English.

The Chairman of the Faculty of Arts shall report to the Senate at the end of each University year the name of the student to whom he recommends the prize to be given.

1911.—Annie Emily Jane Goertz.

1912.—Margaret Wilhelmina Smith.

1913.—Hilda Margaret McCulloch.

1914.—Leila Isabel Florence MacNish.

1915.—Olive Adam.

1916.—Pearl Adam.

1917.—No award.

#### THE ROBERT PHILP SCHOLARSHIP.

At a public meeting held in Brisbane on 18th January, 1909, a Fund was inaugurated for a permanent testimonial to the Honourable Sir Robert Philp, Knt. (member of the Legislative Assembly for Musgrave, 1886-1888, for Townsville since 1888, Premier of Queensland from 7th December, 1899, to 9th September, 1903, and from 19th November, 1907, to 18th February, 1908), in record of the high esteem in which he is held by the people of Queensland for his long service as a member of Parliament and Minister of the Crown in Queensland; and it was resolved that such testimonial should be a scholarship in the University of Queensland, to be called "The Robert Philp Scholarship."

The conditions relating to the scholarship are embodied in a trust deed, which, together with a cheque for £1,366 14s. 3d., was presented to the Honourable Sir Robert Philp at a public meeting in Brisbane on 15th March, 1912, and by him then and there delivered to the Chancellor of the University.

## STATUTE RELATING TO THE ROBERT PHILP SCHOLARSHIP.

1. The University of Queensland shall stand possessed of the sum of one thousand three hundred and sixty-six pounds fourteen shillings and three pence received from the Committee of the Robert Philp Scholarship on the 12th day of March, 1912, for the purposes hereinafter appearing, that is to say:—

2. Upon trust to invest the said sum in the name of the University of Queensland in any investment in which Trustees are from time to time permitted by the law of Queensland to invest, with power to transpose or vary such investment into or for others of the same or a like nature and hereby authorised. Upon trust, further, to receive and collect the dividends, interest, and annual income arising therefrom, and pay the same in each and every year to such graduate in Science of the University of Queensland, to be called "The Robert Philp Scholar," who shall appear by the certificate of the Professor of Physics of the said University to have shown the greatest general proficiency in Physics throughout his course and to be deserving of the award.

The Robert Philp Scholarship shall not be awarded to a candidate who fails to reach second class standard in the Final Honours Examination in Physics.

The certificate of the said Professor of Physics shall be given to the Registrar of the University as soon after the Final Examinations in each year as is practicable, and shall be absolutely final and binding upon all persons whomsoever.

The name of the successful candidate for the scholarship shall be announced as soon as possible after the results of the Final Honours Examination.

The Robert Philp Scholar shall carry out Research work at the University under the direction of the Professor of Physics:

Provided that if at any time hereafter there shall be established in the University of Queensland a Faculty of Agriculture, or there shall be in the opinion of the Senate suitable facilities for the teaching of Agriculture available at or in connection with the University, then and in that case the University of Queensland shall stand possessed of the said sum, and shall receive and collect the said dividends, interest, and annual income, upon further

trust to pay the same in each and every year to such graduate in Science of the University, to be called "The Robert Philp Scholar," who shall appear by the certificate of the Chairman of the Faculty, or Head of the Department concerned, as may be the case, of the said University to have shown the greatest general proficiency in Agriculture throughout the course and to be deserving of the award.

1913.—No candidate.

1914.—No candidate.

1915.—No candidate.

1916.—No candidate.

1917.—No candidate.

1918.—No candidate.

#### **PASSAGES IN THE ORIENT LINE.**

In August, 1910, the Orient Line of Royal Mail Steamers, through their General Manager in Sydney, the late Sir Kenneth Anderson, informed the Senate that the Orient Line would be prepared, when the University had reached the stage of conferring degrees upon students who had gone through any prescribed course of study, to offer first-class passages to Europe in vessels of the line to two such graduates annually.

The disposition of this privilege was left entirely in the discretion of the Senate, but the Managers of the line have expressed the hope that, as the object of the offer was to multiply the opportunities for education by travel, the privilege would preferentially be conferred on graduates who, though wishing to go to Europe, were debarred from doing so by reason of the expense involved rather than on the holders of any particular University distinction as such, or on graduates who are able to dispense with such assistance and would go in any case.

This generous offer was accepted by the Senate, and the line are now prepared to grant free passages to and from London by steamers of the line in accordance with the above conditions.

The passages will be available during the months of May to September, both inclusive, to Europe; and during the months of March to July, both inclusive, outwards from Europe. The passages are available for three years from date of leaving to date of return to Australia.

**THE RHODES SCHOLARSHIPS.**

REGULATIONS APPROVED BY THE TRUSTEES FOR THE  
ELECTION OF SCHOLARS IN QUEENSLAND, 1913.

*Committee of Selection:*

The Committee of Selection shall consist of—

- (a) His Excellency the Governor (in his private capacity), Chairman;
- (b) The Chief Justice of Queensland;
- (c) The Chancellor;
- (d) The President of the Board of Faculties;
- (e) Two Members to be chosen annually by the Senate:

Provided that—

- (i.) If the Governor or Chief Justice is Chancellor, the Senate shall choose three members instead of two;\*
- (ii.) The Teaching Staff shall not be represented on the Committee by more than two members.

No scholarship shall be awarded to any candidate unless he shall have obtained the votes of four members of the Committee.

If four members cannot agree in the choice of a candidate, the right of selection shall vest in the Governor, who shall be guided in making the selection by the same consideration as should determine the Committee in their choice.

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\* In accordance with this proviso, the Senate has chosen the following three members of the Senate as members of the Committee of Selection:—

W. N. Robertson, M.B., Ch.M.;  
The Honourable A. J. Thynne, M.L.C.; and  
G. Woolnough, M.A.

Secretary to the Committee of Selection: F. W. S. Cumbrae-Stewart, B.A., B.C.L.



*Eligibility of Candidates.*

1. Candidates shall be British subjects and unmarried. They must have passed their eighteenth birthday, but not have passed their twenty-fifth birthday, on 1st October of the year in which they are elected.

2. No candidate shall be eligible for election who has been at a University for more than three years. No person who has taken advantage of a Queensland Exhibition shall be eligible for selection, unless he consent to resign the Queensland Exhibition on election to a Rhodes Scholarship.

3. After the year 1900, candidates shall have passed the Responsions Examination of the University of Oxford or some examination accepted by the University as equivalent, or they shall have qualified themselves to be excused from Responsions under the Colonial Universities' Statute.

4. Every candidate shall, for the period of five years immediately preceding his application, have had his home in Queensland, or if his home has not been in Queensland for the prescribed period, or at all, shall have attended a secondary school or schools in Queensland continuously for three years.

*Method of Selection.*

1. In accordance with the wish of Mr. Rhodes, the Trustees desire that, "in the selection of a student to a Scholarship, regard shall be had—(i.) to his literary and scholastic attainments; (ii.) his fondness for and success in manly outdoor sports; (iii.) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindness, unselfishness, and fellowship; (iv.) his exhibition, during school days, of moral force of character and of instincts to lead and take an interest in his school-mates." Mr. Rhodes suggested that (ii.) and (iii.) should be decided in any school or college by the votes of fellow-students, and (iv.) by the head of the school or college.

Where circumstances render it impracticable to carry out the letter of these suggestions, the Trustees hope that

every effort will be made to give effect to their spirit, but desire it to be understood that the final decision must rest with the Committee of Selection.

In order to hold as closely as possible to the suggestion of Mr. Rhodes that masters and fellow-students should have some voice in the selection of a scholar, the Trustees think that the Committee of Selection should ask schools presenting a number of candidates to do so in the order of their preference.

2. To aid the Committee in making a choice, each candidate is required to furnish to the Chairman of the Committee of Selection:—

- (A) A certificate showing that he is within the eligible limits of age;
- (B) A certificate from the head of his school or college, stating that the candidate is, in his opinion, able to pass the Responsions Examination at Oxford or its equivalent;
- (C) Such certificates and testimonials from his masters at school or his professors at college, or any other persons, as seem best adapted to guide the judgment of the Committee in selecting the candidate.

3. Should it seem advisable, the Committee of Selection is free to apply to the candidates or any selected number of them such further intellectual or other tests as it may consider necessary for purposes of comparison. No candidate shall be finally elected without a personal interview.

4. The Chairman of the Committee of Selection will at once notify to the Trustees the name of the elected Scholar, and will forward to Mr. Wylie, the representative of the Trustees at Oxford, all the credentials and testimonials on which the selection was made. The elected Scholar will then be furnished by the Chairman of the Committee of Selection with a Memorandum, prepared by the representative of the Trustees at Oxford, of the steps necessary to have his name enrolled at one of the Colleges of the University.

5. The Scholarship will be paid in four quarterly instalments: the first on beginning residence at Oxford, and there-

after terminally on the certificate of the College that the work and conduct of the student have been satisfactory—without such a certificate the Scholarship lapses. A Scholarship which lapses either from the failure of a student to secure a college certificate, from resignation, from marriage, or from any other cause, will not be filled up until the year in which it would naturally expire. This provision is made in order not to interfere with the rota of succeeding scholars.

*Rhodes Scholars.*

- 1912.—Rhubert William Henry Mellor.\*  
 1913.—Reginald John Cassidy.\*  
 1914.—Allan Warren Linford Row.\*  
 1915.—John Norman Radcliffe.†  
 1916.—James Hickson Baxter.  
 1917.—Gordon Allan Dunbar.\*  
 1918.—No elections held by the Trustees.

**THE WALTER AND ELIZA HALL ENGINEERING FELLOWSHIP.**

Established by the Trustees of the Walter and Eliza Hall Trust.

The following conditions have been approved:—

1. *Name.*—The name of the proposed endowment shall be “The Walter and Eliza Hall Engineering Fellowship.”

2. *Object.*—The object of the Fellowship is to promote the interests of Engineering Science and Practice in Australia, by enabling distinguished graduates in Engineering of the University of Queensland to obtain special experience abroad and subsequently to return and give the advantage of such experience to the Engineering School of the University.

3. *Amount and Tenure.*—The Fellowship is of the annual value of £300, payable quarterly, and is available for a maximum period of three years, the first two of which shall be spent abroad, and the third at the University of Queensland.

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\* On Active Service.

† Military Cross.

4. *Conditions of Award.*—The Fellowship shall be awarded in every third year, in the first term, by the Senate of the University of Queensland, acting on the nomination of the Faculty of Engineering, to a graduate in Engineering of the University of Queensland of not more than four years' standing, reckoned from his qualification, by examination, for his first degree in Engineering. Ordinarily it is expected that the Fellowship will be awarded to a graduate of either two or three years' standing.

5. There will be no special examination for appointment to these Fellowships, but in making the appointment consideration will be given to—

- (a) The work of the applicant during his entire undergraduate course;
- (b) His present interest in, and proved capacity for, Engineering Research, as indicated by his work subsequent to graduation; and
- (c) His general capacity for advancing those interests which it is the object of the Fellowship to foster.

6. *Work of Fellows.*—During the first two years' tenure of these Fellowships, the holder thereof shall follow out such a course of work as shall be approved by the Senate on the recommendation of the Faculty of Engineering. This two years' course of work shall be carried out in such—

- (a) Technical manufacturing works;
- (b) Engineering research laboratories; or
- (c) In connection with such special engineering enterprises;

as may be approved.

7. The third year's tenure of the Fellowship shall be spent in the Engineering School of the University of Queensland, delivering such special lectures and demonstrations as shall be approved by the Senate and doing such other approved work as shall directly further the objects for which the Fellowship has been established.

8. No Fellow shall be permitted to occupy any salaried position or undertake any employment for payment during his Fellowship without the special sanction of the Senate of the University. Each Fellow shall transmit to the Senate of the University half-yearly a precise report as to the progress of his work, and the tenure of the Fellowship shall be subject to these reports being judged as satisfactory. At the conclusion of the tenure of the Fellowship, each Fellow shall submit a paper or report embodying the results of his investigation or experience.

9. In the case of all work published in the form of papers or reports, as a result of holding one of these Fellowships, the Fellow shall distinctly indicate in his publications that he is the holder of a "Walter and Eliza Hall Fellowship" of the University of Queensland.

10. Any further regulations which may be found necessary may be prescribed by the Senate from time to time.

*Walter and Eliza Hall Engineering Fellow.*

1915—Ronald Martin Wilson.

#### **THE WALTER AND ELIZA HALL FELLOWSHIP IN ECONOMIC BIOLOGY.**

Established by the Trustees of the Walter and Eliza Hall Trust.

The following conditions have been approved:—

1. *Name.*—There shall be in the University of Queensland a Fellowship to be called "The Walter and Eliza Hall Fellowship in Economic Biology."

2. *Object.*—The object of the Fellowship is the promotion of original research in Economic Biology in connection with the Department of Biology in the University.

3. *Value.*—The Fellowship shall be of the annual value of £500, of which the sum of £300 shall be paid to the person holding the Fellowship, and £200 shall be devoted to the

purchase of material and equipment and to defray the travelling and other expenses necessary for the prosecution of the research or researches undertaken by the holder of the Fellowship.

4. *Term.*—The Fellowship shall be held for a term of two years from the date of foundation, and may be renewed by the Senate. It may, subject to the approval of the Trustees of the Walter and Eliza Hall Trust, be held with any Professorship or Lectureship in the University, and the Professorship or Lectureship shall not exceed the yearly salary fixed by the Senate for that Professorship or Lectureship, and, in the event of the holder being a Professor or Lecturer, the balance of the combined salary over and above the yearly salary of such Professor or Lecturer shall be devoted to the salary of one or more assistants during the tenure of the Fellowship by that Professor or Lecturer.

5. The Fellow shall do such work and conduct such investigations and researches in Economic Biology as the Lecturer in Biology may approve. He shall, if a Professor or Lecturer, devote a substantial portion of his time to teaching work, and, if the head of a Department, to the administration of his Department.

6. *Annual Report.*—The Fellow shall annually report to the Senate the result of his year's investigations, and a copy of such report shall be submitted forthwith to the Trustees of the Walter and Eliza Hall Trust.

7. Unless with the approval of the Senate, no work shall be carried out except in the laboratories of the University.

8. If it shall appear to the Senate that the teaching efficiency of any Professor or Lecturer holding the Fellowship is impaired by his duties under Clause 5, the Senate may determine the tenure of the Fellowship and appoint another Fellow.

*Walter and Eliza Hall Fellow in Economic Biology.*

1915-1917.—Thomas Harvey Johnston, M.A., D.Sc.  
1917.—Mary Josephine Bancroft, B.Sc.

**THE WALTER AND ELIZA HALL FELLOWSHIP IN  
PURE CHEMISTRY.**

Established by the Trustees of the Walter and Eliza Hall Trust.

The following conditions have been approved:—

1. *Name.*—There shall be in the University of Queensland a Fellowship to be called “The Walter and Eliza Hall Fellowship in Pure Chemistry.”

2. *Object.*—The object of the Fellowship is the promotion of original research in Chemistry in connection with the Department of Chemistry in the University.

3. *Value.*—The Fellowship shall be of the annual value of £400, of which the sum of £300 shall be paid to the person holding the Fellowship, and £100 shall be devoted to the purchase of the material and equipment necessary for the prosecution of the research or researches undertaken by the holder of the Fellowship.

4. *Term.*—The Fellowship shall be held for a term of two years from the date of the foundation, and may be renewed by the Senate. It may, subject to the approval of the Trustees of the Walter and Eliza Hall Trust, be held with any Professorship or Lectureship in the University, provided that the joint salary to be derived from the Fellowship and the Professorship or Lectureship shall not exceed the yearly salary fixed by the Senate for that Professorship or Lectureship, and, in the event of the holder being a Professor or Lecturer, the balance of the combined salary over and above the yearly salary of such Professor or Lecturer shall be devoted to the salary of one or more assistants during the tenure of the Fellowship by that Professor or Lecturer.

5. The Fellow shall do such work and conduct such examinations and researches in Pure Chemistry as the Professor of Chemistry may approve. He shall, if a Professor or Lecturer, devote a substantial portion of his time to teaching work, and, if the head of a Department, to the administration of his Department.

6. *Annual Report*.—The Fellow shall annually report to the Senate the result of his year's investigations, and a copy of such report shall be submitted forthwith to the Trustees of the Walter and Eliza Hall Trust.

7. Unless with the approval of the Senate, no work shall be carried out except in the laboratories of the University.

8. If it shall appear to the Senate that the teaching efficiency of any Professor or Lecturer holding the Fellowship is impaired by his duties under Clause 5, the Senate may determine the tenure of the Fellowship and appoint another Fellow.

*Walter and Eliza Hall Fellow in Pure Chemistry.*

1915-1917.—Henry George Denham, M.A., D.Sc.,  
Ph.D.

1917.—Henry George Denham, re-elected.

**THE JOHN THOMSON LECTURESHIP.**

Founded in 1915 by a gift of £200 from the Queensland University Extension Fund.

*Conditions.*

1. The said £200 shall form the endowment for a Lectureship to be called "The John Thomson Lectureship," and shall be invested as the Senate may from time to time direct.

2. The Lectureship shall be an annual appointment.

3. The duty of the Lecturer shall be to deliver a course of not more than three public Lectures on some approved subject.

4. The Board of Faculties shall annually, at its April meeting, make recommendations to the Senate as to the Lecturer and the subject of the Lecture Course for the year.

*John Thomson Lecturer.*

1916.—H. Y. Braddon.

1917.—Elton Mayo. B.A.



**THE SIR THOMAS McILLWRAITH ENGINEERING  
SCHOLARSHIPS.**

At a public meeting held in Brisbane on the 17th September, 1900, an Executive was appointed to take steps to establish a Memorial to the Honourable Sir Thomas McIlwraith, K.C.M.G., LL.D., three times Premier of Queensland, who died on 17th July, 1900, in recognition of his long and valuable services to the Colony of Queensland and of the far-seeing and broad spirit of statesmanship displayed by him in the interests not only of Queensland but of Australasia and the Empire generally.

The Executive determined that the Memorial should take the form of Scholarships in the University, to be called "The Sir Thomas McIlwraith Engineering Scholarships," and the sum of £2,670 8s. 6d. was received from public subscriptions for the establishment of the Scholarships.

This sum was handed to the University under the terms of a Trust Deed dated the 16th May, 1916. These terms were subsequently embodied in a Statute of the University.

**STATUTE RELATING TO THE SIR THOMAS McILLWRAITH  
SCHOLARSHIPS.**

The University shall stand possessed of the said sum of two thousand six hundred and seventy pounds eight shillings and sixpence received from the Executive of the Sir Thomas McIlwraith Memorial on the sixteenth day of May, 1916, and such other sums, if any, which may hereafter be received by way of further contributions to the said Memorial, hereinafter called "The Fund," upon the trusts and for the purposes hereinafter set out, that is to say—

1. Upon trust to invest the Fund and any accumulation of unexpended income, in the name of the University of Queensland, in any investment in which Trustees are from time to time permitted by the law of Queensland to invest trust funds, with power to transpose or vary any such into or for others of the same or a like nature and hereby authorised.

2. Upon trust further to receive and collect the dividends, interest, and annual income arising therefrom and pay the same in each and every year to a student or students, undergraduate or undergraduates, graduate or graduates in Engineering of the University of Queensland, each of whom shall be termed "Sir Thomas McIlwraith Engineering Scholar," and in accordance with the following terms and conditions:—

I. There shall be two or more Scholarships in the University of Queensland to be called "The Sir Thomas McIlwraith Engineering Scholarships."

II. Each of the Scholarships shall be tenable for one year, and shall be of the annual value of £40; and the balance of the income arising from the fund from time to time, after providing for the Scholarships in each year, shall be added to the Fund for accumulation until the income of the Fund is sufficient to provide for a further Scholarship or Scholarships of the same value.

III. The Scholarships shall be open to—

- (a) Evening students of the Faculty of Engineering who have completed the work entitling them to enter the third year of the course for the Degree of Bachelors of Engineering as day students;
- (b) Day students of the Faculty of Engineering who have completed the first three years of the course for the Degree of Bachelor of Engineering and are about to enter on the fourth year of that course.

IV. The candidates' general suitability and their record throughout their course shall be considered in awarding the Scholarships.

V. The emoluments of the Scholarships shall be paid in three equal terminal instalments on production of a certificate from the Professor of Engineering, addressed to the Registrar, of satisfactory work during the term.

VI. The Scholarships shall be awarded on the recommendation of the Faculty of Engineering.

VII. In the event of any of the Scholarships lapsing or the emoluments thereof ceasing to become payable to any person to whom one of the Scholarships has been awarded, the Senate may, on the recommendation of the Faculty of Engineering, appoint some qualified person to hold the Scholarship for the balance of the year, or may resolve that such emoluments be added to the Fund and left to accumulate as above mentioned.

VIII. It shall be lawful for the Senate of the University at any time, by resolution, to alter or amend the above conditions.

IX. If in any year any Scholarship or Scholarships are not awarded in accordance with the above conditions or any alteration or amendment thereof, then the amount of any such Scholarship or Scholarships for that year shall fall into and be deemed to form part of the capital money of the Fund, and shall be dealt with accordingly.

X. Any certificate given to the Registrar of the University pursuant to such Statute shall be absolutely final and binding upon all parties whomsoever.

*The Sir Thomas McIlwraith Engineering Scholarships.*

1918.—Noel Crawford Aitken, Charles Banks Mott.

**THE FORD MEMORIAL PRIZE.**

Founded in 1916 by a gift of £100 from the Queensland United Licensed Victuallers' Association to found a medal to be called the "Ford Memorial Medal," in commemoration of Lieutenant S. K. Ford and Corporal T. W. Ford (brothers), both of whom lost their lives in the defence of the Empire.

*Conditions.*

1. The Ford Memorial Medal shall be open for competition among the undergraduates of the University.
2. The medal shall be awarded annually to the author of the best English poem on a given theme or in a given form.

3. Each poem shall be typewritten. The name of the candidate shall not appear on the poem, but a motto shall be attached thereto. Along with the poem shall be sent a sealed envelope containing the name of the candidate and the motto adopted by him. Such envelope shall not be opened until the poems have been judged.

4. The Board of Faculties shall, before the end of the second term in each year, announce the subject or form for the following year.

5. The Board of Faculties shall recommend annually to the Senate the Examiners, who, if Professors or Lecturers in the University, shall act accordingly.

6. Competing poems shall be sent to the Registrar not later than the end of second term in each year.

7. If in the opinion of the examiners the competing poems in any year be unworthy of the prize, the prize shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

The subject of the Prize for 1918: Moreton Bay.

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**ANNUAL EXAMINATIONS, 1917.****FACULTY OF ARTS.****First Year Examination, 1917.**

The following completed the First Year Examination:—

Ashley, Edith Helen	Gordon, Julia Annie
Binns, May	Harsant, Kathleen Mary
Brown, Stanley George	Henderson, Neville Vicars
Byth, Ellinor Margaret	Henzell, Margaret Clare Harrop
Cherry, Isabella Phyllis	Herzig, Bernard Albert
Crane, Frederick Gordon	James, Minnie Gwendolin
Dath, Nellie	Jones, Idrisyn Frederick
Davidson, John Federation Ed- ward	Kennedy, Doris Vivian
Drake, Trevers Kinnaird	Knott, Eva
Easterby, Dora Emily	Law, Ena
Fraser, Alexander Ivor MacDon- nell	Morgan, Ina Hope
Gee, Eric Cameron Craig	Murray, Vida Ann de Stokar, Nina
	Yeates, Vera Blackett

The following are the details of individual subjects:—

**LATIN I.***Merit.*

Davidson, John Federation Ed- ward	Gordon, Julia Annie Jones, Idrisyn Frederick
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*Pass.*

Ashley, Edith Helen	Gee, Eric Cameron Craig
Binns, May	Harsant, Kathleen Mary
Brown, Stanley George	Henzell, Margaret Clare Harrop
Byth, Ellinor Margaret	Herzig, Bernard Albert
Cherry, Isabella Phyllis	Hughes, Thomas Francis
Dath, Nellie	Knott, Eva
Drake, Trevers Kinnaird	Lukin, Lionel George
Easterby, Dora Emily	de Stokar, Nina
Fraser, Alexander Ivor MacDon- nell	

*Evening.*

Arthur, John.

*External.*

Irvine, Charles Robert	Tutin, Sydney Boville
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## LATIN II.

Evening Student.  
Palfery, Albert Edward.

## GREEK I.

*Merit.*

Dath, Nellie.

*Pass.*

Ashley, Edith Helen	Gee, Eric Cameron Craig
Drake, Trevers Kinnaird	Henzell, Margaret Clare Harrop
Easterby, Dora Emily	Jones, Idrisyn Frederick
Fraser, Alexander Ivor MacDon- nell	

## ENGLISH I.

*Pass.*

Binns, May	Gordon, Julia Annie
Brown, Stanley George	Harsant, Kathleen Mary
Byth, Ellinor Margaret	Henderson, Neville Vicars
Cherry, Isabella Phyllis	Henzell, Margaret Clare Harrop
Crane, Frederick Gordon	James, Minnie Gwendolin
Dath, Nellie	Jones, Idrisyn Frederick
Davidson, John Federation Ed- ward	Kennedy, Doris Vivian
Drake, Trevers Kinnaird	Law, Ena
Easterby, Dora Emily	Morgan, Ina Hope
Gee, Eric Cameron Craig	de Stokar, Nina
	Yeates, Vera Blackett

Evening.

Arthur, John	Zerner, William August
Colvin, Joseph	

External.

Bartlett, Orlando Ernest John	Salisbury, John Spelman
Irvine, Charles Robert	Tutin, Sydney Boville

## ENGLISH II.

Evening.

Palfery, Albert Edward.

External.

Adam, Pearl	Michel, William
Harvey, William Robert	O'Connor, Matthew Michael
Jenkins, Harry	Ryan, Rosa

## FRENCH I.

*Pass.*

Byth, Ellinor Margaret	Kennedy, Doris Vivian
Davidson, John Federation Ed-ward	Morgan, Ina Hope
Henderson, Neville Vicars	O'Gorman, Kathleen Eva
	Scott, Annie Isabel

*Evening.*

Fletcher, Georgina Isabel.

## GERMAN I.

*Pass.*

Crane, Frederick Gordon	*Murray, Vida Ann
Knott, Eva	Shaw, Lucy

*Evening.*

\*Viggers, William Arthur.

## BRITISH HISTORY I.

*Merit.**Evening.*

Palfery, Albert Edward.

*Pass.*

Binns, May	Henderson, Neville Vicars
Crane, Frederick Gordon	

*Evening.*

Barker, Eleanor Isabella	Ludgate, Henrietta Blanche
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*External.*

Jenkins, Harry.

## BRITISH HISTORY II.

*Pass.**Evening.*

Dunlop, Edward James.

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\* Passed Oral Examination.

## LOGIC AND PSYCHOLOGY I.

*Merit.*

Davidson, John Federation Edward.

*Pass.*

Byth, Ellinor Margaret	Henzell, Margaret Clare Harrop
Cherry, Isabel Phyllis	Herzig, Bernard Albert
Dath, Nellie	James, Minnie Gwendolin
Drake, Trevers Kinnaird	Jones, Idrisyn Frederick
Easterby, Dora Emily	Knott, Eva
Fraser, Alexander Ivor MacDon-	Law, Ena
nell	Murray, Vida Ann
Gee, Eric Cameron Craig	de Stokar, Nina
Gordon, Julia Annie	Yeates, Vera Blackett
Harsant, Kathleen Mary	

## External.

Crowder, Letitia Marion Harvey, William Robert

## LOGIC AND PSYCHOLOGY II.

Ludgate, Henrietta Blanche Thompson, Richard William James

## External.

Michel, William.

## ETHICS AND METAPHYSICS.

## Evening.

Dunlop, Edward James.

## PURE MATHEMATICS I.

*Merit.*

Brown, Stanley George.

*Pass.*

Ashley, Edith Helen	Kennedy, Doris Vivian
Fraser, Alexander Ivor MacDon-	Law, Ena
nell	Murray, Vida Ann
Herzig, Bernard Albert	Yeates, Vera Blackett

## Evening.

Campbell, John McLeod Trudgian, Wilfred John  
Colvin, Joseph

## External.

Adam, Pearl MacKillop, Allan MacDonald  
Crowder, Letitia Marion



## APPLIED MATHEMATICS I.

*Pass.*

Brown, Stanley George                      Herzig, Bernard Arthur

Evening.

Thompson, Richard William James.

External.

O'Connor, Matthew Michael.

## APPLIED MATHEMATICS II.

Evening.

Viggers, William Arthur.

External.

Drain, David Simpson Aitken.

## GEOLOGY AND MINERALOGY I.

*Merit.*

James, Minnie Gwendolin.

*Pass.*

Morgan, Ina Hope.

## ECONOMICS.

*Pass.*

Evening.

Dunlop, Edward James                      Thompson, Richard William J.

Law, Norman Archie

External.

Drain, David Simpson Aitken.

**Second Year Examination, 1917.**

The following completed the Second Year Examination:—

Bee, Florence Rose	Paterson, Frederick Woolnough
Eden, Ena Doris	Ruddell, Thelma Mary
Henry, Joseph Thomas	Scott, Annie Isabel Stenhouse
Higgins, Kathleen Annie	Shaw, Lucy
Hughes, Gwen Delphine	Smith, Ivy Lilian
Jenks, George Henry	Staunton, Mary Philomena
Macmillan, Mary Alexis	de Witt, Elsie Veronica

The following are the details of individual subjects:—

## LATIN II.

*Merit.*

Paterson, Frederick Woolnough.

*Pass.*

Eden, Ena Doris	Smith, Ivy Lilian
Macmillan, Mary Alexis	de Witt, Elsie Veronica

## GREEK II.

*Merit.*

Paterson, Frederick Woolnough.

*Pass.*

Eden, Ena Doris	Smith, Ivy Lilian
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## ENGLISH I.

*Pass.*

Ruddell, Thelma Mary	Staunton, Mary Philomena
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## ENGLISH II.

*Pass.*

Bee, Florence Rose	Hughes, Gwen Delphine
Henry, Joseph Thomas	Macmillan, Mary Alexis

*External.*

Adam, Pearl.

## FRENCH II.

*Bee, Florence Rose	*Macmillan, Mary Alexis
Hughes, Gwen Delphine	*de Witt, Elsie Veronica

## GERMAN I.

*Pass.*

Shaw, Lucy.

## GERMAN II.

*Merit.*

Henry, Joseph Thomas.

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\* Passed Oral Examination.

## LOGIC AND PSYCHOLOGY I.

*Merit.*

Bee, Florence Rose.

*Pass.*

Macmillan, Mary Alexis      Smith, Ivy Lilian

## LOGIC AND PSYCHOLOGY II.

*Pass.*

Pennycuick, Stella Victoria.

## ETHICS AND METAPHYSICS.

*Merit.*

Paterson, Frederick Woolnough.

*Pass.*

Eden, Ena Doris.

## EDUCATION.

*Merit.*

Henry, Joseph Thomas      Jenks, George Henry

*Pass.*Higgins, Kathleen Annie      Scott, Annie Isabel Stenhouse  
Hughes, Gwen Delphine      Shaw, Lucy

## PURE MATHEMATICS II.

*Pass.*Higgins, Kathleen Annie      Scott, Annie Isabel Stenhouse  
Jenks, George Henry      Shaw, Lucy  
Ruddell, Thelma Mary      Staunton, Mary Philomena*External.*

McIntyre, Doris Frampton      Ryan, Rosa

## APPLIED MATHEMATICS II.

*Merit.*

Jenks, George Henry.

*Pass.*

Ruddell, Thelma Mary      Staunton, Mary Philomena

**Third Year Examination, 1917.**

The following completed the Third Year Examination:—

Aldridge Isabel	McIntyre, Doris Frampton
Andrews, Mary Kathleen	Moore, Agnes Jane
Cribb, Lucy Baynes	Peterson, Annie Millicent
Lukin, Lionel George	Salisbury, John Spelman

The following are details of individual subjects:—

## LATIN I.

*Pass.*

Lukin, Lionel George.

## LATIN II.

*Pass.*

Andrews, Mary Kathleen      Cribb, Lucy Baynes

## ENGLISH I.

Andrews, Mary Kathleen.

External.

Salisbury, John Spelman.

## ENGLISH II.

Craig, Elinor Frances	Lukin, Lionel George
Cribb, Lucy Baynes	

## FRENCH I.

External.

McIntyre, Doris Frampton.

Evening.

Peterson, Annie Millicent.

## FRENCH II.

\*Craig, Elinor Frances      Lukin, Lionel George

External.

McIntyre, Doris Frampton.

## ECONOMICS.

*Pass.*

Aldridge, Isabel	Cribb, Lucy Baynes
Andrews, Mary Kathleen	Peterson, Annie Millicent

---

\* Passed Oral Examination.

## UNIVERSITY OF QUEENSLAND.

## LOGIC AND PSYCHOLOGY I.

*Pass.*

Aldridge, Isabel.

## LOGIC AND PSYCHOLOGY II.

Peterson, Annie Millicent.

## EDUCATION.

*Pass.*

Moore, Agnes Jane.

## CONSTITUTIONAL HISTORY.

*Pass.*

Lukin, Lionel George.

## GEOLOGY AND MINERALOGY I.

*Pass.*

Aldridge, Isabel.

**FACULTY OF SCIENCE.****First Year Examination, 1917.**

The following completed the First Year Examination:—

Briggs, Webster	Lamb, Andrew Cecil
Curwen-Walker, Malcolm	Macfie, Jean Mascotte
Claude	Nommensen, Frederick Charles
Day, William Charles	O'Sullivan, William Wyreema
Forster, Bessie Tomson	Ping, Aubrey Moore
Gee, Eric Gibson	Ringrose, Edward Colin Davenport
Horsley, John Alan Talbot	
Keid, Harold Guy Walker	

The following are the details of individual subjects:—

## PURE MATHEMATICS I.

*Merit.*

Lamb, Andrew Cecil	Ringrose, Edward Colin Davenport
Ping, Aubrey Moore	

*Pass.*

Briggs, Webster	Gee, Eric Gibson
Curwen-Walker, Malcolm	Horsley, John Alan Talbot
Claude	Keid, Harold Guy Walker
Day, William Charles	Macfie, Jean Mascotte
Forster, Bessie Tomson	

## APPLIED MATHEMATICS I.

*Merit.*

Forster, Bessie Tomson.

*Pass.*

Gee, Eric Gibson O'Sullivan, William Wyreema

Horsley, John Alan Talbot

Evening.

Matthews, Irene Lillian

## BIOLOGY I.

*Merit.*

Lamb, Andrew Cecil.

*Pass.*

Briggs, Webster	Ping, Aubrey Moore
Curwen-Walker, Malcolm	Ringrose, Edward Colin Davenport
Claude	
Day, William Charles	

## CHEMISTRY I.

*Merit.*

Lamb, Andrew Cecil.

*Pass.*

Briggs, Webster	Keid, Harold Guy Walker
Curwen-Walker, Malcolm	Macfie, Jean Mascotte
Claude	Nommensen, Frederick Charles
Day, William Charles	O'Sullivan, William Wyreema
Forster, Bessie Tomson	Ping, Aubrey Moore
Gee, Eric Gibson	Ringrose, Edward Colin Davenport
Horsley, John Alan Talbot	

## PHYSICS I.

*Merit.*

Lamb, Andrew Cecil.

*Pass.*

Briggs, Webster	Keid, Harold Guy Walker
Curwen-Walker, Malcolm	Macfie, Jean Mascotte
Claude	Nommensen, Frederick Charles
Day, William Charles	O'Sullivan, William Wyreema
Forster, Bessie Tomson	Ping, Aubrey Moore
Gee, Eric Gibson	Ringrose, Edward Colin Davenport
Horsley, John Alan Talbot	

Evening.

Matthews, Irene Lillian.

## GEOLOGY AND MINERALOGY I.

*Pass.*

Keid, Harold Guy Walker  
 Macfie, Jean Mascotte

Nommensen, Frederick Charles

**Second Year Examination, 1917.**

The following completed the Second Year Examination:—

Beckmann, George Henry	Mills, Alice Hughes
Burton, Gertrude Mary	Pedersen, Ruby Jane
Hirschfeld, Otto Saddler	Scott, Rose McKenzie
Kennedy, Sidney George	Sundstrup, Henry Arthur
Lanskey, Robert George	Tiegs, Oscar Werner
Micheli, Louis Ivan Allan	

## PURE MATHEMATICS II.

*Merit.*

Micheli, Louis Ivan Allan.

*Pass.*

Beckmann, George Henry	Mills, Alice Hughes
Burton, Gertrude Mary	Pedersen, Ruby Jane
Hirschfeld, Otto Saddler	Scott, Rose McKenzie
Kennedy, Sidney George	Sundstrup, Henry Arthur
Lanskey, Robert George	Tiegs, Oscar Werner

*Evening.*

Hamilton, David Christopher.

## APPLIED MATHEMATICS II.

*Pass.*

Burton, Gertrude Mary.

*Evening.**Merit.*

Pennycuick, Stuart Wortley

*Pass.*

Hamilton, David Christopher

## BIOLOGY II.

*Merit.*

Tiegs, Oscar Werner.

*Pass.*

Hirschfeld, Otto Saddler	Pedersen, Ruby Jane
Mills, Alice Hughes	Sundstrup, Henry Arthur

## CHEMISTRY II.

*Merit.*

Micheli, Louis Ivan Allan	Lanskey, Robert George
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*Pass.*

Beckmann, George Henry	Scott, Rose McKenzie
Burton, Gertrude Mary	Sundstrup, Henry Arthur
Hirschfeld, Otto Saddler	Tiegs, Oscar Werner
Kennedy, Sidney George	

## Evening.

*Merit.*

Kersbergen, Louis George	Pennycuick, Stuart Wortley
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*Pass.*

Arter, Henry Charles.

## GEOLOGY AND MINERALOGY II.

*Pass.*

Beckmann, George Henry	Pedersen, Ruby Jane
Mills, Alice Hughes	Scott, Rose McKenzie

## PHYSICS II.

*Pass.*

Kennedy, Sidney George	Lanskey, Robert George
Micheli, Louis Ivan Allan	

**Third Year Examination, 1917.**

The following completed the Third Year Examination:—

Bancroft, Mabel Josephine	Graff, Roy
Breslin, Francis Louis	James, Gwladys Yvonne
Cooling, George	McCulloch, Herbert
Drape, Olive Myrtle	Ward, Isabel Jane
Evans, Clive Kerslake	

The following are details of individual subjects:—

## BIOLOGY III.

*Pass.*

Bancroft, Mabel Josephine	Drape, Olive Myrtle
Breslin, Francis Louis	James, Gwladys Yvonne

## CHEMISTRY III.

*Pass.*

Bancroft, Mabel Josephine	Graff, Roy
Breslin, Francis Louis	McCulloch, Herbert
Cooling, George	Ward, Isabel Jane
Evans, Clive Kerslake	



## GEOLOGY AND MINERALOGY III.

*Pass.*Drape, Olive Myrtle  
Graff, Roy

James, Gwladys Yvonne

## LOGIC.

*Pass.*Bancroft, Mabel Josephine  
Breslin, Francis Louis  
Cooling, George  
Drape, Olive Myrtle  
Evans, Clive KerslakeGraff, Roy  
James, Gwladys Yvonne  
McCulloch, Herbert  
Ward, Isabel Jane**APPLIED SCIENCE  
IN CHEMISTRY AND CHEMICAL ENGINEERING.****First Year Examination, 1917.**The following completed the First Year Examination:—  
Edmiston, Ernest Stewart.

The following are details of individual subjects:—

## PURE MATHEMATICS I.

*Merit.*—Edmiston, Ernest Stewart.

## APPLIED MATHEMATICS I.

*Merit.*—Edmiston, Ernest Stewart.

## CHEMISTRY I.

*Pass.*—Edmiston, Ernest Stewart.

## PHYSICS I.

*Merit.*—Edmiston, Ernest Stewart.

## GEOLOGY AND MINERALOGY I.

*Merit.*—Edmiston, Ernest Stewart.

## ENGINEERING DRAWING AND DESIGN I.

*Pass.*—Edmiston, Ernest Stewart.

## DESCRIPTIVE GEOMETRY.

*Pass.*—Edmiston, Ernest Stewart.

**FACULTY OF ENGINEERING.****First Year Examination, 1917.**

The following completed the First Year Examination :—

Axon, Albert Edwin	McCulloch, Alfred
Dowrie, James Wilson	Wagner, Eric Gordon
Flower, Rupert Wickham	Watson, William Francis
Henderson, Douglas	

The following are the details of individual subjects :—

## PURE MATHEMATICS I.

*Merit.*

McCulloch, Alfred	Wagner, Eric Gordon
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*Pass.*

Axon, Albert Edwin	Henderson, Douglas
Dowrie, James Wilson	Watson, William Francis
Flower, Rupert Wickham	

## APPLIED MATHEMATICS I.

*Merit.*

Axon, Albert Edwin	Wagner, Eric Gordon
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*Pass.*

Dowrie, James Wilson	McCulloch, Alfred
Flower, Rupert Wickham	Watson, William Francis
Henderson, Douglas	

## CHEMISTRY I.

*Merit.*

Axon, Albert Edwin	McCulloch, Herbert
--------------------	--------------------

*Pass.*

Dowrie, James Wilson	Wagner, Eric Gordon
Flower, Rupert Wickham	Watson, William Francis
Henderson, Douglas	

## PHYSICS I.

*Merit.*

Axon, Albert Edwin	McCulloch, Alfred
Dowrie, James Wilson	

*Pass.*

Flower, Rupert Wickham	Wagner, Eric Gordon
Henderson, Douglas	Watson, William Francis

## GEOLOGY AND MINERALOGY.

*Merit.*

Dowrie, James Wilson.

*Pass.*

Axon, Albert Edwin	McCulloch, Alfred
Flower, Rupert Wickham	Wagner, Eric Gordon
Henderson, Douglas	Watson, William Francis

## ENGINEERING DRAWING AND DESIGN I.

*Merit.*

Dowrie, James Wilson.

*Pass.*

Axon, Albert Edwin	McCulloch, Alfred
Flower, Rupert Wickham	Wagner, Eric Gordon
Henderson, Douglas	Watson, William Francis

## DESCRIPTIVE GEOMETRY I.

*Merit.*

Dowrie, James Wilson      McCulloch, Alfred

*Pass.*

Axon, Albert Edwin	Wagner, Eric Gordon
Flower, Rupert Wickham	Watson, William Francis
Henderson, Douglas	

**Second Year Examination, 1917.**

The following completed the Second Year Examination :—

Blakey, Othman Frank	Foster, Edwin
Brazier, Felix Howard	

The following are the details of individual subjects :—

## PURE MATHEMATICS II.

*Pass.*

Blakey, Othman Frank	Foster, Edwin
Brazier, Felix Howard	

## APPLIED MATHEMATICS II.

*Merit.*

Blakey, Othman Frank.

*Pass.*

Brazier, Felix Howard      Foster, Edwin

## CHEMISTRY II.

*Merit.*

Blakey, Othman Frank.

*Pass.*

Brazier, Felix Howard                      Foster, Edwin

## PHYSICS II.

*Pass.*Blakey, Othman Frank                      Foster, Edwin  
Brazier, Felix Howard

## ENGINEERING DRAWING AND DESIGN II.

*Merit.*

Foster, Edwin.

*Pass.*

Blakey, Othman Frank                      Brazier, Felix Howard

## APPLIED MECHANICS.

*Pass.*Blakey, Othman Frank                      Foster, Edwin  
Brazier, Felix Howard

## HEAT ENGINES I.

*Merit.*

Blakey, Othman Frank.

*Pass.*

Brazier, Felix Howard                      Foster, Edwin

**Third Year Examination, 1917.**

## (A) CIVIL ENGINEERING.

The following completed the Third Year Examination:—

Aitken, Noel Crawford                      Mott, Charles Banks

## (B) MECHANICAL AND ELECTRICAL ENGINEERING.

Uscinski, Alexander Josephovitch.

The following are the details of individual subjects:—

## MATHEMATICS III.

## (A) CIVIL ENGINEERING.

*Merit.*

Aitken, Noel Crawford.

*Pass.*

Mott, Charles Banks.

## UNIVERSITY OF QUEENSLAND.

## (B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

## HYDRAULICS I.

## (A) CIVIL ENGINEERING.

*Merit.*

Aitken, Noel Crawford.

*Pass.*

Mott, Charles Banks.

## (B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

## HYDRAULICS II.

## CIVIL ENGINEERING.

*Merit.*

Aitken, Noel Crawford.

*Pass.*

Mott, Charles Banks.

## CIVIL ENGINEERING I.

## (A) CIVIL ENGINEERING.

*Merit.*

Aitken, Noel Crawford

Mott, Charles Banks

## (B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

## MATERIALS TESTING.

## (A) CIVIL ENGINEERING.

*Pass.*

Aitken, Noel Crawford

Mott, Charles Banks

## (B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

ENGINEERING DESIGN.

(A) CIVIL ENGINEERING.

*Pass.*

Aitken, Noel Crawford                      Mott, Charles Banks

(B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Merit.*

Uscinski, Alexander Josephovitch.

SURVEYING I.

(A) CIVIL ENGINEERING.

*Merit.*

Mott, Charles Banks.

*Pass.*

Aitken, Noel Crawford.

(B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

ENGINEERING CHEMISTRY.

(A) CIVIL ENGINEERING.

*Pass.*

Aitken, Noel Crawford                      Mott, Charles Banks

(B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

BUILDING CONSTRUCTION AND ARCHITECTURE.

(A) CIVIL ENGINEERING.

*Merit.*

Aitken, Noel Crawford.

*Pass.*

Mott, Charles Banks.

HEAT ENGINES II.

(B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

APPLIED ELECTRICITY.

(B) MECHANICAL AND ELECTRICAL ENGINEERING.

*Pass.*

Uscinski, Alexander Josephovitch.

**FINAL HONOURS EXAMINATIONS, 1918.**

## CLASS LISTS.

**FACULTY OF ARTS.**

## CLASSICS.

*Class I.*

Byth, Herbert Victor	Entriiken, Thomas Alexander
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*Class II.—None.**Class III.*

Fitzpatrick, Elsie Victoria	McCarthy, Vincent David
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## MENTAL AND MORAL PHILOSOPHY.

*Class I.*

McConnel, Ursula Hope.
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*Class II.—None.**Class III.—None.*

## MODERN LANGUAGES AND LITERATURE.

*Class I.—None**Class II.*

Adam, Olive.
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*Class III.—None.***FACULTY OF SCIENCE.**

## BIOLOGY.

*Class I.—None**Class II.*

Bancroft, Mary Josephine	James, Gwladys Yvonne
Drape, Olive Myrtle	Peberdy, Edna Florence

*Class III.—None.*

CHEMISTRY.

*Class I.*—None.

*Class II.*

Cooling, George

Evans, Clive Kerlake

*Class III.*—None.

GEOLOGY AND MINERALOGY.

*Class I.*—None.

*Class II.*

Graff, Roy.

*Class III.*—None.

MATHEMATICS.

*Class I.*—None.

*Class II.*

Burton, Ernest Joseph.

*Class III.*—None.

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**DEGREES CONFERRED IN 1916.**

## BACHELOR OF ARTS.

Adamson, Amy Hannah	Holtham, Richard
Allen, Herbert	Jackson, Robert James
Barnes, James Alfred	Jenkyn, Cyril Henry Harris
Dennis, Dorothy Kate	McCarthy, James Patrick
Dignan, Oliver Joe Harry Chambers	McCulloch, Hilda Margaret
Doran, Florence Claire	McDonnell, Monica Eanswide
Finn, Eugene Thomas	MacLean, Marion Agnes
*Fisher, Walde Gerard	O'Shaughnessy, Patrick
Fittock, Winifred Lucy	Reeves, Enid Elsie Venner
Gibson, John Stanley	Stanley, Edwin James Droughton
Harrison, Annie Marjorie	Steedman, Beryl Blanche
Hibbard, Edmund	Tinniswood, Mabel
	*Wonderley, Charles Robertson

## BACHELOR OF SCIENCE.

Bennett, Frederick	*Neilson, John Francis
Boyle, Robert Alexander	Pearce, Thomas Russell
Hobson, Charles Arthur	Quinn, Reginald George
James, Frederick William	Singleton, Henry Percival
Mackenzie, Margaret Eliza	Vance, Grace Winifred
Mottershead, Arthur	Watkins, Stewart Byron

## MASTER OF SCIENCE.

Byran, Walter Heywood	Gillies, Clyde Douglas
Cleminson, Hilda Florence Lucy	Hargreaves, George Watson
Dart, Raymond Arthur	

## BACHELOR OF ENGINEERING.

## IN CIVIL ENGINEERING.

*Brown, Percival Henry	Fowler, William Musa Bhai
*Brydon, Kenneth Mackenzie	*Reinhold, William James

## IV. MECHANICAL AND ELECTRICAL ENGINEERING.

Lewis, Charles Edwyn.

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\* On Active Service.

**DEGREES CONFERRED IN 1917.****BACHELOR OF ARTS.**

Allan, Mary May	Lockington, Dora Esther
Brown, Agnes Evelyn	Lord, Elvina Beryl
Eaves, Mary Aminda	McDermott, Sheila
Edwards, Lewis David	Morris, John
Foggon, Harriett Willard	*Pearse, Archibald Ernest Edgar
Forman, Olive May	Ruddell, Caroline Mary
Forrest, Vera Elphinstone	Smith, Ida Marion
Fowler, Joseph Longton	Sully, Hilda Jessie
Gilbert, Jeannette Anne	Thatcher, Thomas
Harrison, Charles Henry	Thompson, Francis Cecil
Harwood, Leonard John	Watson, Freda Charlotte Olivia
Heiner, Harry Hooper	Wishart, Pearl Marion
Holdaway, Ernest William Cue	

**MASTER OF ARTS.**

Molesworth, Bevil Hugh.

**BACHELOR OF SCIENCE.**

Adam, Catherine Laurretta	Peberdy, Edna Florence
Fletcher, Frederick Herbert	Peel, Harriett Jeannie
Haines, Vera	Sterne, Ilma Ruby
Longworth, Mortimer Alfred	†Wagner, John George
Manchester, Dorothy Annetta	Walker, Mavis Jean

**MASTER OF SCIENCE.**

Waddle, Isaac.

**BACHELOR OF ENGINEERING.****IN CIVIL ENGINEERING.**

Conroy, Adam William	Crellin, Stanley Quilliam
*Cornwall, Hubert Mackay	

**IN MECHANICAL AND ELECTRICAL ENGINEERING.**

Modrak, Peter	*Sherman, Thomas Louis
*Scriven, Harry Edward Bennett	*Wrigley, James Harold

\* On Active Service.

† On Munitions Work.

**DEGREES CONFERRED IN 1918.**

## BACHELOR OF ARTS.

Adam, Olive	Lukin, Lionel George
Aldridge, Isabel	McCarthy, Vincent David
Andrews, Mary Kathleen	McConnel, Ursula Hope
Byth, Herbert Victor	McIntyre, Doris Frampton
Campbell, John McLeod	McKillop, Allan MacDonald
Cribb, Lucy Baynes	Moore, Agnes Jane
Enriken, Thomas Alexander	Peterson, Annie Millicent
Fitzpatrick, Elsie Victoria	Salisbury, John Spelman
Fletcher, Georgina Isabel	Viggers, William Arthur

## MASTER OF ARTS.

Fisher, Eric Maxwell	McCulloch, Hilda Margaret
McCarthy, James Patrick	Schindler, Charles
Sheldon, Annie	

## BACHELOR OF SCIENCE.

Bancroft, Mabel Josephine	Drape, Olive Myrtle
Breslin, Francis Louis	Evans, Clive Kerslake
Burton, Ernest Joseph	James, Gwladys Yvonne
Cooling, George	McCulloch, Herbert
Ward, Isabel Jane	

## MASTER OF SCIENCE.

Vance, Grace Winifred	Watkins, Stewart Byron
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## BACHELOR OF ENGINEERING.

## IN CIVIL ENGINEERING.

Brown, George Duncan.

**MEMBERS OF THE UNIVERSITY.**GRADUATES WHO ARE MEMBERS OF THE  
COUNCIL OF THE UNIVERSITY.

## FACULTY OF ARTS.

## MASTER OF ARTS.

- Adam, Evangeline Wilson [1909, Glasgow], 1917.  
 Alcock, Henry [1911, Oxford], 1914.  
 Allpass, George James [1910, Dublin], 1911.  
 Backhouse, Evelyn Mabel [1909, Melbourne], 1911.  
 Baker, Edward Morgan [1900, Oxford], 1912.  
 Barbour, George Pitty [1889, Sydney], 1911.  
 Batty, Francis de Witt [1905, Oxford], 1911.  
 Bell, William [1877, Glasgow], 1911.  
 Bennett, Leslie Ernest [1909, Melbourne], 1916.  
 Bousfield, Frederic Sydney Newman [1880, Oxford], 1911.  
 Burgess, Clement Ernest [1910, Durham], 1911.  
 Cameron, Donald [1863, Edinburgh], 1911.  
 Castleman, Arthur [1906, Sydney], 1911.  
 \*Cooper, Pope Alexander [1874, Sydney], 1915.  
 Craig, William Watters [1877, Belfast], 1917.  
 Cribb, Estelle Muriel Bridson [1901, Sydney], 1911.  
 Cribb, John George [1893, Sydney], 1911.  
 Davies, Alun [1911, Wales], 1912.  
 Dixon, Horace Henry [1909, Cambridge], 1911.  
 \*Donaldson, St. Clair George Alfred [1887, Cambridge], 1911.  
 Downey, Catherine Jack [1905, Glasgow], 1913.  
 Dunlop, Mabel Laura Tange [1909, Sydney], 1912.  
 Eldershaw, William Frederick Barry Newton [1911, Durham],  
 1912.  
 Fisher, Eric Maxwell, 1918.  
 Fletcher, Michael Scott [1902, Sydney], 1912.  
 Flint, Charles Alfred [1884, Sydney], 1911.  
 Fowles, Edwin Wesley Howard [1895, Melbourne], 1911.  
 Frodsham, George Horsfall [1894, Durham], 1911.

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\* Member of Senate.

- Gant, Tetley [1883, Oxford], 1911.  
 George, John [1910, Sydney], 1911.  
 Gibson, James [1885, Edinburgh], 1911.  
 Glaister, Richard [1885, Glasgow], 1916.  
 Grant, Russell Walker [1901, Melbourne], 1911.  
 Green, Harold Haydn [1908, Oxford], 1911.  
 Groom, Littleton Ernest [1891, Melbourne], 1911.  
 Hale, Herbert Percy [1897, Oxford], 1911.  
 Hay, Alexander [1853, St. Andrews], 1911.  
 Henchman, Hereward Humfry [1898, Melbourne], 1911.  
 Hodge, Grace Mackenzie [1911, Edinburgh], 1914.  
 Jensen, Clio [1905, Sydney], 1911.  
 Kellow, Henry Arthur [1905, Glasgow], 1913.  
 Kerr, Richard Alexander [1901, Melbourne], 1911.  
 Kingsbury, John James [1887, Dublin], 1911.  
 Lawrance, Bertram George [1898, Cambridge], 1911.  
 Le Fanu, Henry Frewen [1900, Oxford], 1911.  
 Lothian, Elizabeth Inglis [1908, Melbourne], 1911.  
 Lukin, Catherine Alicia [1890, Melbourne], 1911.  
 MacCallum, Mungo William [1878, Glasgow], 1911.  
 McCarthy, James Patrick, 1918.  
 McCulloch, Hilda Margaret, 1918.  
 Macdonald, John Scott [1896, Aberdeen], 1911.  
 Macfarland, John Henry [1876, Cambridge], 1911.  
 Macrossan, Neal William [1914, Oxford], 1916.  
 \*Merrington, Ernest Northcroft [1903, Sydney], 1911.  
 Meyer, Frank Edward [1906, Melbourne], 1911.  
 \*Michie, John Lundie [1911, Cambridge], 1911.  
 Micklem, Philip Arthur [1902, Oxford], 1911.  
 Molesworth, Bevil Hugh, 1917.  
 Morrow, William Alexander [1910, Melbourne], 1911.  
 Naylor, H. Darnley [1894, Cambridge], 1911.  
 Nightingale, Frank Myring [1908, Dublin], 1911.  
 Nott, Percy Pleydell Neale [1900, Cambridge], 1911.  
 Owen, David [1884, Oxford], 1911.  
 Parnell, Thomas [1907, Cambridge], 1911.  
 Parnell, Hermiene Friederica, née Ulrich [1911, Melbourne],  
 1912.  
 Pattinson, Joseph Alfred [1888, Cambridge], 1911.  
 Pratt, Frederick Vickary [1897, Sydney], 1916.  
 \*Priestley, Henry James [1909, Cambridge], 1911.  
 Robertson, Joseph [1877, Sydney], 1911.

- Robinson, Stanford Frederick Hudson [1892, Dublin], 1911.  
 Roe, Reginald Heber [1876, Oxford], 1901.  
 Rudd, Arthur William [1904, Melbourne], 1911.  
 Schindler, Charles, 1918.  
 Scott, George [1891, Oxford], 1911.  
 Shand, William Alfred Byam [1886, Oxford], 1911.  
 Sheldon, Annie, 1918.  
 Stable, Jeremiah Joseph [1909, Cambridge], 1912.  
 Stephenson, Stuart [1893, Melbourne], 1911.  
 Strugnell, Evelyn Herbert [Cambridge], 1915.  
 Talbot-Tubbs, Henry Arnold [1889, Oxford], 1916.  
 Thompson, Walter [1907, Oxford], 1911.  
 Thwaites, Robert Ernest [1903, Oxford], 1911.  
 Walker, James [1896, Glasgow], 1911.  
 Wheatcroft, J. G. R. [1874, Cambridge], 1914.  
 White, Helen Frances Mary [1889, Melbourne], 1911.  
 Witherby, Theodore Colquhoun [1907, Oxford].  
 \*Woolnough, George [1874, Sydney], 1915.

## BACHELOR OF ARTS.

- Bailey, Margaret Anne [1900, Sydney], 1911.  
 Baird, Henriette Elfriede, 1914.  
 Barkell, Philippa Kate, 1913.  
 Barker, Bertram James, 1914.  
 Bevington, Agnes Park, 1914.  
 Bonar, Janet Macadam, 1915.  
 Bourne, Florence Ida [1906, Sydney], 1911.  
 Buchanan, Charles Packenham [1899, Sydney], 1911.  
 Bundock, Charles Wyndham [1878, Sydney], 1912.  
 Cameron, Archibald Preston [1894, Cambridge], 1911.  
 Cameron, Walter Evan [1893, Cambridge], 1911.  
 Carson, Thomas John Knox [1902, Melbourne], 1911.  
 Carvosso, Arthur Benjamin [1884, Sydney], 1911.  
 Chard, John Patience, 1914.  
 Cholmeley, Roger James [1894, Oxford].  
 Cosh, James [1891, Sydney], 1914.  
 Cumbrae-Stewart, Francis William Sutton [1887, Oxford],  
 1911.  
 Dakin, Isaac Allan [1890, London], 1911.  
 Dakin, Jessie Elizabeth, 1913.  
 Darvall, Annie Emily Jane, 1914.

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\* Member of Senate.

- Dawson, Margaret Graham, 1915.  
Desmond, Austin Thomas, 1913.  
Dinning, Hector William, 1914.  
Dodds, Aileen Stewart, 1915.  
Duesbury, Pearl [1908, Sydney], 1911.  
Edwards, Edward Evan [1898, Sydney], 1911.  
Feez, Arthur Herman Henry Milford [1880, Sydney], 1911.  
Fisher, Doris May, *née* Wright, 1915.  
Fisher, Eric Maxwell, 1914.  
Foggan, Charles Ambrose, 1914.  
Geraghty, William Bernard, 1914.  
Grant, Robert, 1914.  
Grove, Frederick Thomas [1902, Melbourne], 1911.  
Gunson, William Norman [1908, Melbourne], 1911.  
Hamilton, Robert Campbell, 1913.  
Hanger, Thomas, 1915.  
Hardgrove, Annie, 1915.  
Harker, Constance Elizabeth [1895, Sydney], 1911.  
Hawken, Roger William Hercules [1902, Sydney], 1914.  
Hertzberg, Marcus [1906, Sydney], 1911.  
Hodgens, Charlotte Elizabeth, 1915.  
Hooper, Sarah Daisy, 1914.  
Horn, David [1898, Melbourne], 1911.  
Hunter, Thomas Brown [1898, Sydney], 1911.  
Jarrett, Marjorie Kate [1901, Sydney], 1911.  
Jones, Albert Harding, 1915.  
Jones, Thomas Edward [1884, Sydney], 1911.  
Kingsmill, Walter [1883, Adelaide], 1911.  
Krone, Berthold Henry Charles [1910, Melbourne], 1911.  
Larcombe, Ernest Richard [1902, Sydney], 1911.  
Lilley, Kathleen Mitford [1911, Sydney], 1911.  
McGirr, Rachel Rittenberg Miller, *née* Hermes [1912, Sydney],  
1912.  
Macrossan, Hugh Denis [1902, Sydney], 1911.  
McCulloch, Minnie, 1915.  
McWhinney, Matthew, 1915.  
Markwell, Gladys Emilie [1911, Sydney], 1911.  
Mason, Elizabeth.  
Mayo, George Elton [1911, Adelaide], 1911.  
Meyer, Walter James, 1915.  
Moorhouse, Percy Walter, 1914.  
Munro, Mary Alison Miles [1895, Sydney], 1911.  
Newman, Kelsey Illidge [1894, Sydney], 1911.  
Nommensen, John Walden, 1915.

Norris, Alice Mabel Constance [1909, Sydney], 1911.  
 North, Frederick [1907, Sydney], 1916.  
 Nowlan, Joseph Gabriel [1910, Sydney], 1911.  
 O'Brien, Owen Walter, 1915.  
 Osborn, John Edward Norman [1904, Oxford], 1911.  
 Palmer, Selina Elizabeth [1901, Sydney], 1911.  
 Parkinson, Kathleen Alvena [1910, Sydney], 1911.  
 Phelan, Margaret Mary, 1915.  
 Philp, Doris Margaret [1911, Sydney], 1911.  
 Powe, Arthur Blaney, 1914.  
 Priest, Herbert James [1904, Adelaide], 1914.  
 Radcliffe, William Christopher [1896, R.U.I.], 1911.  
 Radcliffe, John Norman, 1915.  
 Rahman, Herbert William, 1915.  
 Ramsay, Muriel Berry [1909, Sydney], 1911.  
 Ryan, Thomas Joseph [1899, Melbourne], 1911.  
 Sachs, Norma Lilian, *née* Wilkinson, 1915.  
 Salkeld, William Llewellyn Davies [1902, Melbourne], 1911.  
 Shann, Edward Owen Giblin [1904, Melbourne], 1911.  
 Smith, Margaret Wilhelmina, 1915.  
 Smith, William Henry [1901, London], 1911.  
 Swanwick, Kenneth ffoulkes [1894, Sydney], 1911.  
 Walker, Samuel Herbert [1894, Sydney], 1911.  
 Walsh, John James [1899, Sydney], 1911.  
 Watkins, Herbert Lance [1907, Sydney], 1911.  
 Watson, Evelyn Annie [1911, Sydney], 1914.  
 Wearne, Richard Arthur [1895, Sydney], 1911.  
 Wilkie, Louisa, 1915.  
 Wilkinson, Eleanor May.  
 Williams, Mary Atkinson [1900, London], 1912.  
 Wilson, John Arthur Clifton, 1915.  
 Woolcock, John Laskey [1883, Sydney], 1911.

## FACULTY OF SCIENCE.

## DOCTOR OF SCIENCE.

Denham, Henry George [1909, Liverpool], 1914.  
 Hamlyn-Harris, Ronald [1902, Tübingen], 1911.  
 Haney, Rose Ethel Janet (*née* White) [1909, Melbourne], 1912.  
 Johnston, Thomas Harvey [1911, Sydney], 1911.  
 Shirley, John [1912, Sydney], 1912.  
 Steele, Bertram Dillon [1902, Melbourne], 1911.



## MASTER OF SCIENCE.

- Bage, Anna Frederica [1906, Melbourne], 1914.  
 Bryan, Walter Heywood, 1916.  
 Cleminson, Hilda Florence Lucy, 1916.  
 Dart, Raymond Arthur, 1916.  
 Gillies, Clyde Douglas, 1916.  
 Hargreaves, George Watson, 1916.  
 \*Richards, Henry Caselli [1909, Melbourne], 1911.  
 Vance, Grace Winifred, 1918.  
 Waddle, Isaac, 1917.  
 Watkins, Stewart Byron, 1918.

## BACHELOR OF SCIENCE.

- Bagster, Lancelot Salisbury [1908, Adelaide], 1911.  
 Flint, Arthur Carson [1911, Sydney], 1911.  
 Hunt, Fanny E. [1888, Sydney], 1911.  
 Jefferis, Arthur Tarleton [1908, Adelaide], 1914.  
 Lane, Charles Noel Kelleher, 1914.  
 Lee, Ivy Ada, 1915.  
 Marsden, Albert James, 1914.  
 Modrak, Peter, 1914.  
 Morison, Marion Wilhelmina [1910, Sydney], 1911.  
 Moyes, Morton Henry [1910, Adelaide], 1911.  
 Phipps, Florence Emily, 1914.  
 Smith, Frank [1903, Adelaide], 1911.  
 Smyth, Margorie Kane [1910, Sydney], 1911.  
 †Walkom, Arthur Bache [1910, Sydney], 1912.  
 Wheatley, Frederick William [1890, Adelaide], 1911.

## FACULTY OF ENGINEERING.

## MASTER OF ENGINEERING.

- Bradfield, John Job Crew [1896, Sydney], 1911.  
 Manchester, Ernest James Theodore [1896, Melbourne], 1911.

## BACHELOR OF ENGINEERING.

- Burgess, John Henry [1905, Sydney], 1911.  
 Dennis, Spenser [1909, Sydney], 1911.  
 Doak, Walter James [1895, Sydney], 1911.  
 Egerton-Barracough, Samuel Henry [1892, Sydney], 1911.  
 Frew, Alison Eavis Harding [1908, Sydney], 1911.

\* D.Sc. Melbourne, 1915.

† D.Sc. Sydney, 1918.

Hawken, Roger William Hercules [1900, Sydney], 1914.  
 Lloyd, Norman Austin, 1915.  
 McIntyre, Alexander Leahy, 1915.  
 McNeil, Frederick Douglas [1909, Melbourne], 1911.  
 Marks, Edward Oswald [1905, Dublin], 1911.  
 Martyn, Athelstan Markham [1905, Sydney], 1911.  
 May, Hubert Walter [1907, Sydney], 1911.  
 Mehaffey, Maurice William [1910, N.Z.], 1912.  
 Millar, Stanley James, 1915.  
 Morris, Leonard Canton [1905, Sydney], 1916.  
 Morrison, Archibald [1908, Sydney], 1911.  
 Norman, Edwin Philip [1911, Sydney], 1912.  
 Ross, Cecil Napier A. [1915, Melbourne], 1915.  
 Sachs, Walter John [1911, Sydney], 1911.  
 Saunders, George Joseph [1904, Sydney], 1912.  
 Tivey, John Proctor [1907, Sydney], 1911.  
 Walker, Hugh [1903, Sydney], 1911.  
 Weston, Percy Leonard [1904, Sydney], 1911.  
 Wilson, Ronald Martin, 1915.

## FACULTY OF LAW.

## DOCTOR OF LAWS.

Bryce, Viscount [*Honoris causa*], 1912.  
 Kidston, William [*Honoris causa*], 1911.  
 Griffith, Sir Samuel Walker [*Honoris causa*], 1912.  
 Macgregor, Sir William [*Honoris causa*], 1914.

## MASTER OF LAWS.

Groom, Littleton Ernest [1892, Melbourne], 1911.  
 Payne, Frederick William [1883, Cambridge], 1912.  
 Salkeld, William Llewellyn Davies [1906, Melbourne], 1911.

## BACHELOR OF LAWS.

Fahey, Bartley Francis [1904, Sydney], 1911.  
 Hertzberg, Marcus [1908, Sydney], 1911.  
 Lehane, Thomas Joseph [1903, Sydney], 1911.  
 Preston, Annie Eliza [1904, Melbourne], 1911.  
 Real, Edward Thynne [1907, Sydney], 1911.  
 Swanwick, Kenneth ffoulkes [1905, Sydney], 1911.  
 Tozer, Seymour Darvall [1901, Sydney], 1911.  
 Walker, James Ernest [1896, Sydney], 1911.

## FACULTY OF MEDICINE.

## DOCTOR OF MEDICINE.

Flynn, John [Durham], 1915.  
 Gibson, John Lockhart [1885, Edinburgh], 1911.  
 Halford, Arthur Charles Frederick [1898, Melbourne], 1911.  
 Hardie, David [1887, Aberdeen], 1911.  
 Hirschfeld, Eugen [1889, Strassburg], 1911.  
 McDonnell, Æneas John [1896, Sydney], 1911.  
 Marks, Alexander Hammett [1905, Dublin], 1911.  
 May, Thomas Henry [1878, Q.U.I.], 1911.  
 Morgan, Thomas Howard [1896, Edinburgh], 1911.  
 Orr, Andrew William [1890, Dublin], 1911.  
 Stewart, Herbert Jamieson [1907, Edinburgh], 1911.  
 Stuart, Simson [1879, Q.U.I.], 1911.  
 Thompson, Robert [1890, Durham], 1911.  
 Turner, Alfred Jefferis [1886, London], 1911.

## MASTER OF SURGERY.

Brade, Gerald Francis [1911, Sydney], 1911.  
 Buchanan, Joseph David [1905, Sydney], 1911.  
 Cameron, Donald Allan [1901, Sydney], 1911.  
 Carvosso, Arthur Benjamin [1893, Edinburgh], 1911.  
 Connolly, Thomas Patrick [1904, Sydney], 1913.  
 Elliot, Henry Pritchard [1894, Edinburgh], 1911.  
 Freshney, Reginald [1892, Sydney], 1911.  
 Greenham, Eleanor Constance [1901, Sydney], 1911.  
 Lightoller, George Henry Standish [1906, Sydney], 1911.  
 Love, Wilton Wood Russell [1884, Edinburgh], 1911.  
 Markwell, Norman Walter [1911, Sydney], 1911.  
 \*†Robertson, William Nathaniel [1892, Edinburgh], 1911.

## BACHELOR OF MEDICINE.

Ahern, Edward Denis [1911, Melbourne], 1911.  
 Bourne, Eleanor Elizabeth [1903, Sydney], 1911.  
 Brade, Gerald Francis [1899, Sydney], 1911.  
 Buchanan, Joseph David [1905, Sydney], 1911.  
 Butler, Arthur Graham [1899, Cambridge], 1911.  
 Cameron, John Alexander [1892, Cambridge], 1911.  
 Carvosso, Arthur Benjamin [1893, Edinburgh], 1911.  
 Dods, Joseph Espie [1897, Edinburgh], 1911.

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\* Member of Senate.

† Also representative of the British Medical Association (Queensland Branch).

Elliot, Henry Pritchard [1894, Edinburgh], 1911.  
 Freshney, Reginald, [1892, Sydney], 1911.  
 Greenham, Eleanor Constance [1901, Sydney], 1911.  
 Horn, Alexander [1907, Aberdeen], 1911.  
 Horn, David [1907, Aberdeen], 1911.  
 \*Jackson, Ernest Sandford [1881, Melbourne], 1911.  
 Lane, Charles Timon [1885, Melbourne], 1911.  
 Lightoller, George Henry Standish [1906, Sydney], 1911.  
 Love Wilton Wood Russell [1884, Edinburgh], 1911.  
 Markwell, Norman Walter [1910, Sydney], 1911.  
 Porter, Adela [1904, Melbourne], 1911.  
 Price, Thomas Arthur [1899, Edinburgh], 1911.  
 Roberts, Alfred John Spencer Cecil [1905, Sydney], 1911.  
 Robertson, William Nathaniel [1892, Edinburgh], 1911.  
 Thomson, Jack Mowbray [1903, Sydney], 1911.  
 Wheeler, James Atkin [1888, London], 1911.  
 Wilson, James Thomas [1883, Edinburgh], 1911.

## BACHELOR OF SURGERY.

Horn, Alexander [1907, Aberdeen], 1911.  
 Horn, David [1907, Aberdeen], 1911.  
 \*Jackson, Ernest Sandford [1881, Melbourne], 1911.  
 Lane, Charles Timon [1886, Melbourne], 1911.  
 Thompson, Robert [1890, Durham], 1911.

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\* Member of Senate.

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**GRADUATES WHO ARE NOT MEMBERS OF THE  
COUNCIL OF THE UNIVERSITY.**

**FACULTY OF ARTS.**

**BACHELOR OF ARTS.**

Adam, Olive (1918)	Lockington, Dora Esther (1917)
Adamson, Amy Hannah (1916)	Lord, Elvina Beryl (1917)
Aldridge, Isabel (1918)	Lukin, Lionel George (1918)
Allan, Mary May (1917)	McCarthy, Vincent David (1918)
Allen, Herbert (1916)	McConnel, Ursula Hope (1918)
Barnes, James Alfred (1916)	McCulloch, Hilda Margaret (1916)
Brown, Agnes Evelyn (1917)	McDermott, Sheila (1917)
Byth, Herbert Victor (1918)	McDonnell, Monica Eanswide (1916)
Campbell, John McLeod (1918)	McIntyre, Doris Frampton (1918)
Cribb, Lucy Baynes (1918)	McKillop, Allan Macdonald (1918)
Dennis, Dorothy Kate (1916)	Maclean, Marion Agnes (1916)
Dignan, Oliver Joe Harry Chambers (1916)	Moore, Agnes Jane (1918)
Doran, Florence Claire (1916)	Morris, John (1917)
Eaves, Mary Aminda (1917)	O'Shaughnessy, Patrick (1916)
Edwards, Lewis David (1917)	Pearse, Archibald Ernest Edgar (1917)
Enriken, Thomas Alexander (1918)	Peterson, Annie Millicent (1918)
Fittock, Winifred Lucy (1916)	Reeves, Enid Elsie Venner (1916)
Fitzpatrick, Elsie Victoria (1918)	Ruddell, Caroline Mary (1917)
Fletcher, Georgina Isabel (1918)	Salisbury, John Spelman (1918)
Foggon, Harriet Willard (1917)	Smith, Ida Marion (1917)
Forman, Olive May (1917)	Stanley, Edward James Droughton (1916)
Forrest, Vera Elphinstone (1917)	Steedman, Beryl Blanche (1916)
Fowler, Joseph Longton (1917)	Sully, Hilda Jessie (1917)
Gibson, John Stanley (1916)	Thatcher, Thomas (1917)
Gilbert, Jeannette Anne (1917)	Thompson, Francis Cecil (1917)
Harrison, Annie Marjorie (1916)	Tinniswood, Mabel (1916)
Harrison, Charles Henry (1917)	Viggers, William Arthur (1918)
Harwood, Leonard John (1917)	Watson, Freda Charlotte Olivia (1917)
Heiner, Harry Hooper (1917)	Wishart, Pearl Marion (1917)
Hibbard, Edmund (1916)	
Holdaway, Ernest William Cue (1917)	
Holtham, Richard (1916)	
Jackson, Robert James (1916)	
Jenkyn, Cyril Henry Harris (1916)	

## BACHELOR OF SCIENCE.

Adam, Catherine Laretta (1917)	Longworth, Mortimer Alfred (1917)
Bancroft, Mabel Josephine (1918)	Mackenzie, Margaret Eliza (1916)
Bennett, Frederick (1916)	McCulloch, Herbert (1918)
Breslin, Francis Louis (1918)	Manchester, Dorothy Annetta (1917)
Burton, Ernest Joseph (1918)	Mottershead, Arthur (1916)
Cooling, George (1918)	*Neilson, John Francis (1916)
Drape, Olive Myrtle (1918)	Pearce, Thomas Russell (1916)
Evans, Charles Kerslake (1918)	Peberdy, Edna Florence (1917)
Fletcher, Frederick Herbert (1917)	Peel, Harriet Jeannie (1917)
Haines, Vera (1917)	Sterne, Ilma Ruby (1917)
Hobson, Charles Arthur (1916)	Wagner, John George (1917)
†James, Frederick William (1916)	Walker, Mavis Jean (1917)
James, Gwladys Yvonne (1918)	

## BACHELOR OF ENGINEERING.

*Brown, Percival Henry (1916)	Modrak, Peter (1917)
Brown, George Duncan (1918)	*Reinhold, William James (1916)
*Cornwall, Hugh Mackay (1917)	*Scriven, Harry Edward Bennett (1917)
Crellin, Stanley Quilliam (1917)	*Sherman, Thomas Louis (1917)
†Fowler, William Musa Bhai (1916)	*Wrigley, James Harold (1917)
†Lewis, Charles Edwyn (1916)	

## MEMBERS OF THE COUNCIL WHO ARE NOT GRADUATES OF THE UNIVERSITY.

## THE WARDEN :

Sir Robert Philp, K.C.M.G.,

Donor under the University of Queensland Act of 1909, Sec. II. (f).

## MEMBERS OF SENATE :

Walter Russell Crampton	William McCormack
James Duhig.	Frank McDonnell
Alexander James Gibson.	George Edward Rowe
Herbert Freemont Hardacre	John Douglas Story
John Brownlie Henderson	Andrew Joseph Thynne

\* On Active Service.

† On Munitions Work.

## PAST MEMBERS OF SENATE.

Edward Campbell Gustavus Barton	Albert Hinchcliffe George Anderson Richard
James William Blair	John Killough Stewart
Leslie Gordon Corrie	

REPRESENTATIVES UNDER THE UNIVERSITY OF  
QUEENSLAND ACT OF 1909, SEC. II. (g).

Robert Stewart, Council of King's College, Brisbane.  
 James Park Thomson, Royal Geographical Society Australasia,  
 Queensland.  
 Harry Courtenay Luck, Commercial Travellers' Association of  
 Queensland.  
 George James MacKay, The Pharmaceutical Society of Queensland  
 and the Pharmacy Board of Queensland.  
 Peter Balderston Macgregor, Bar Association of Queensland.  
 Lewis Martin Bond, Brisbane Chamber of Commerce (Incor-  
 porated).  
 Charles Basil Lethem, The Queensland Institute of Surveyors.  
 Thomas William Bouchard, The Queensland Law Association.  
 John MacDonald, The National Agricultural and Industrial Associa-  
 tion of Queensland.  
 Elliott Henry Gurney, The Royal Society of Queensland.  
 Harold Rinder Brown, The Queensland Employers' Federation.  
 William Richard Parker, Odontological Society.  
 William McCosker, The Brisbane Industrial Council.  
 Arthur Exley, The Queensland Teachers' Union.  
 Alfred Joseph Goldsmith, Institution of Civil Engineers.  
 \*Robertson, William Nathaniel, The British Medical Association,  
 Queensland Branch.  
 Spink, Andrew, Queensland Friendly Societies' application.

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\* See page 232.

**UNDERGRADUATES, 1918.****FACULTY OF ARTS.****FIRST YEAR.**

Armanasco, Juliet Angulene	Horton, Evelyn Whitney
Arundel, Margaret Effie Overell	Hughes, Thomas Francis
Atthow, Wilfred	Lahey, Thomas George Gordon
Bale, Theo. John	Leslie, William Stanley
Barbour, Robert Roy Pitty	Lindsay, John
Barry, Thomas Maurice	Martin, Helen
Catchpoole, Ida Violet	Martin, Zoe Estelle
Cran, Sydney	O'Gorman, Kathleen Eva
*Curwen-Walker, Ewan	*Paton, Arthur Francis
Cuthbertson, Madgie	Seaward, Margaret
Daniels, Mavis Lilian	Shipley, Elsie Maria Douglas
France, Dorothy	Spark, Dorothy Mildred Hester
*Fryer, John Denys	Vandeleur, Michael Ambrose
Gasteen, Hugh	Wendorf, Burnett William
Harrison, Ida Winifred	Withecumbe, Hilda Harris

**Evening Students.**

Arthur, John	Jeffries, Bernard Joseph
Barker, Eleanor Isabella	Law, Norman Archie
Cole, Mary	Ludgate, Henrietta Blanche
Crane, Frederick Gordon	Palfery, Albert Edward
Dunlop, Edward James	Robson, Bryan Fisher
Iilff, Edgar Austin	Shaw, Gerald Harold Eleutherius

**SECOND YEAR.**

Ashley, Edith Helen	*Graham, Murray Douglas
Binns, May	Green, Katherine Edith
Brown, Stanley George	Henderson, Neville Vicars
Byth, Elinor Margaret	Henzell, Margaret Clare Harrop
Cherry, Isabella Phyllis	Herzig, Bernard Albert
Dath, Nellie	James, Minnie Gwendolin
Davidson, John Federation Ed- ward	*Jones, Idrisyn Frederick
*Diamond, William Victor	Kennedy, Doris Vivian
Drake, Trevers Kinnaird	Knott, Eva
Easterby, Dora Emily	Law, Ena
*Florence, John Neil	Lee, John Joseph
Frazer, Alexander Ivor Mac- Donnell	*Loney, Eric
*Gee, Eric Cameron Craig	Morgan, Ina Hope
Gordon, Julia Annie	Murray, Vida Ann
	*Partridge, Eric Honeywood
	Yeates, Vera Blackett

**Evening.**

Crane, Frederick Gordon.

\* On Active Service.



## THIRD YEAR.

*Bath, Walter Stanley	MacMillan, Mary Alexis
Bee, Florence Rose	*Paterson, Frederick Woolnough
Craig, Elinor Frances	Ruddell, Thelma Mary
Eden, Eva Doris	Scott, Annie Isobel Stenhouse
Henry, Joseph Thomas	Shaw, Lucy
Hughes, Owen Delphine	Smith, Ivy Lilian
Jenks, George Henry	Stanton, Mary Philomena
*Kyle, William Marquis	de Witt, Elsie Veronica

## Evening.

Pennyquick, Stella Victoria	Weise, Gordon Edouard
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## External Students.

Adam, Pearl	Hoskin, Alice Clara
Bartlett, Orlando Ernest John	Irvine, Charles Robert
Blumberg, Mina Fiegel Breine	Jenkins, Harry
Brightman, Maxwell Julian	Lendrum, John Richard
Sydney	Macfie, Peter Angus
Calford, Eileen Rotha	Michel, William
Calford, Lilian Alberta	Moorhouse, Ernest James
Cameron, Margaret Stewart	O'Connor, Matthew Michael
Campbell, Kathleen	Rees, Babington Owen
Drain, David Simpson Aitken	Rich, Charles Henry
Hall, James Robinson Maxwell	Ryan, Rosa
Harwood, Samuel James	Sampson, Royal
Heaton, James Henry	Sullivan, Timothy Douglas
Higgins, Kathleen Annie	Tutin, Sydney Boville

## FACULTY OF SCIENCE.

## FIRST YEAR.

Birkbeck, Florence Julia	McLean, Charles Robert
Boyce, Clive Rodney	McLean, Gordon Alexander
Broe, James Joseph	*McLean, William
Clarkson, Victor Charles	McWilliam, Jessie Idda
George, Noel Francis	Muir, Elsie Winifred
Hall, Thomas Mervyn Seyde	O'Keeffe, Joseph Richard
Hannan, Valda	Smith, Lily Agnes
Johnson, Horace William	Simpson, Tom
Lahey, Mavis Elizabeth Alicia	de Stokar, Nina
McKeon, Michael Leonard De	Wiley, Waldo Jackson
Vaney	

## Evening Students.

Fien, Henry Paul George	Hamilton, David Christopher
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\* On Active Service.

## SECOND YEAR.

*Briggs, Webster	Lamb, Andrew Cecil
*Day, William Charles	Macfie, Jean Mascotte
Foster, Bessie Tomson	Nommensen, Frederick Charles
*Fowles, Duncan	O'Sullivan, William Wyreema
Gee, Eric Gibson	Ping, Aubrey Moore
*Horn, Harold William	Ringrose, Edward Colin Daven-
Keid, Harold Guy Walker	port

## THIRD YEAR.

Beckman, George Henry	Mills, Alice Hughes
Burton, Gertrude Mary Josephine	Pedersen, Ruby Jane
Hirschfeld, Otto Saddler	*Rankin, William Evelyn Dunsyrn
Kennedy, Sydney George	Scott, Rose McKenzie
Lanskey, Robert George	Sundstrup, Henry Arthur
Micheli, Louis Ivan Allan	Tiegs, Oscar Werner

**APPLIED SCIENCE.**

## FIRST YEAR.

Bennett, Norman	Grenning, Victor
Duus, Earl Wright Jessen	Horsley, John Alan Talbot

## SECOND YEAR.

†Boyle, Robert Alexander	Henderson, Douglas
Edmiston, Ernest Stewart	

## THIRD YEAR.—None.

## FOURTH YEAR.

†Singleton, Henry Percival, B.Sc.

**FACULTY OF ENGINEERING.**

## FIRST YEAR.

Anthony, Percy Alexander Wil-	King, John Edward
liam	Leckey, George William
Calder, Clifford Mason	*Lewis, John Armstrong
*Dunstan, Frank Wheatley	Pardoe, Leonard Gardiner
Houghton, Gordon Granville	

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\* On Active Service.

† On Munitions Work.

## SECOND YEAR.

*Axon, Albert Edwin	Longbottom, Claude Muller
*Biggs, Frederick John	McCulloch, Alfred
*Cribb, Eric Clarke	*Newton, George Oakley
Cullen, Edgar Boyd	*Thelander, Elias Albert
*Dowrie, James Wilson	*Wagner, Eric Gordon
Flower, Rupert Wickham	*Watson, William Francis
Garland, David James	

## THIRD YEAR.

*Baldwin, Daniel Eric	Foster, Edwin
Blakey, Othman Frank	*Percy, Roger Arnold
Brazier, Felix Howard	Strover, Walter Henry

## FOURTH YEAR.

*Civil Engineering.*

Aitken, Noel Crawford	Mott, Charles Banks
*McWilliam, Russell John	*Paterson, Charles Raff

## MECHANICAL AND ELECTRICAL.

Uscinski, Alexander Josephovitch.

## NON-MATRICULATED STUDENTS.

Brown, Malcolm	Scott, Alison Margaret Sten-
Cantrell, Joseph	house
Flynn, Stephen	Taylor, Beatrice Buckland
Millward, William Arthur	Thompson, George Robert
Morris, Eva Margaret	Thomson, William Alexander
Moxon, Laetitia Cicely	Underhill, Walter Robert
Mulveny, Essie	

## External.

Best, James	McCulloch, John
Boneham, Florence	Middleton, Samuel
Campbell, Essie	Moulday, George Alfred
Charles, William	Naish, George
Collings, Joseph Silver D.	Stapleton, Arthur John
Grant, John George	Suthers, Arthur Osmond
Jones, Martin Luther	Trembath, James H.
Kehoe, Patrick	Williams, W. J.
May, Roy Branston	Wilson, Ernest Gilbert
McComb, William Robert	

\* On Active Service.

**University Prizes and Class Lists issued by the Examiners  
in Final Honour Examinations.**

Name.	Prizes, &c.	Honours.
<b>Faculty of Arts.</b>		
1913.		
Barkell, Philippa Kate ..	..	2nd cl. Classics
Dakin, Jessie Elizabeth..	..	2nd cl. Classics
1914.		
*Powe, Arthur Blancy ..	Trav. Scholarship	1st cl. Classics
Baird, Henriette Elfreda ..	..	2nd cl. Classics
Foggon, Charles Ambrose ..	..	2nd cl. Classics
Mason, Elizabeth ..	..	3rd cl. Classics
Meyer, Walter James ..	..	3rd cl. Classics
Bevington, Agnes Park ..	..	1st cl. Math.
Fisher, Eric Maxwell ..	..	2nd cl. Math.
Darvall, Annie Emily Jane ..	..	2nd cl. History
1915.		
*Grant, Robert .. ..	..	1st cl. Classics
*†Radcliffe, John Norman ..	Rhodes Scholarship	2nd cl. Classics
Dawson, Margaret Graham ..	..	3rd cl. Classics
Dodds, Aileen Stewart ..	..	3rd cl. Classics
Nommensen, John Walden ..	..	3rd cl. Classics
McCulloch, Minnie ..	..	3rd cl. Math.
Phelan, Margaret May ..	..	3rd cl. Math.
Molesworth, Bevil Hugh ..	Trav. Schol- arship, 1916	1st cl. History
Wright, Doris Mary ..	..	2nd cl. History
Mursell, James Lockhart ..	Trav. Scholarship	1st cl. Ment. Phil.
Sheldon, Annie .. ..	..	2nd cl. Mod. Lang.
Bonar, Janet Macadam ..	..	3rd cl. Mod. Lang.
Smith, Margaret Wilhelmina ..	..	3rd cl. Mod. Lang.

Name.	Prizes, &c.	Honours.
<b>Faculty of Arts.—Continued.</b>		
1916.		
*Fisher, Walde Gerard ..	Travelling Scholarship, 1917	1st cl. Classics
*Wonderley, Charles Robertson ..	..	1st cl. Classics
Harrison, Annie Marjory ..	..	2nd cl. Classics
Jackson, Robert John ..	..	2nd cl. Maths.
McCarthy, James Patrick ..	..	2nd cl. Maths.
Stanley, Edwin James Droughton	Archibald Prize, 1917	2nd cl. History
Jenkyn, Charles Henry Harris ..	..	3rd cl. History
McCulloch, Hilda Margaret ..	..	1st cl. Mod. Lang.
Dennis, Dorothy Kate ..	..	2nd cl. Mod. Lang.
1917.		
Ruddell, Caroline Mary ..	..	1st cl. Classics
Harrison, Charles Henry ..	..	2nd cl. Classics
†Pearce, Archibald Ernest Edgar	..	2nd cl. Classics
Smith, Ida Marion ..	..	2nd cl. Classics
Watson, Freda Charlotte Olivia ..	..	2nd cl. Classics
Thompson, Francis Cecil ..	..	2nd cl. Maths.
Eaves, Mary Amanda ..	..	3rd cl. Hist.
Edwards, Lewis David ..	..	1st cl. Ment. Phil.
Thatcher, Thomas ..	Gold Medal	1st cl. Ment. Phil.
Foggon, Harriet Willard ..	..	2nd cl. Mod. Lang.
Sully, Hilda Jessie ..	..	3rd cl. Mod. Lang.
1918.		
†Byth, Herbert Victor ..	Travelling Scholarship, 1918	1st cl. Classics
Enriken, Thomas Alexander ..	..	1st cl. Classics
Fitzpatrick, Elsie Victoria ..	..	3rd cl. Classics
McConnel, Ursula Hope ..	..	1st cl. Ment. Phil.
Adam, Olive .. ..	..	2nd cl. Mod. Lang.
<b>Faculty of Science.</b>		
1914.		
†Dart, Raymond Arthur ..	..	3rd cl. Biology
†Hargreaves, George Watson ..	Gold Medal (Chemistry)	2nd cl. Chemistry
†Bryan, Walter Heywood ..	..	2nd cl. Geo. and Min.
1915.		
†Dart, Raymond Arthur ..	..	1st cl. Biology
Gillies, Clyde Douglas ..	..	1st cl. Biology
Cleminson, Hilda Florence Lucy	..	2nd cl. Biology
Waddle, Isaac .. ..	..	1st cl. Physics

\* Killed in Action.

† On Active Service.

‡ On Munitions Work.

Name.	Prizes, &c.	Honours.
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## Faculty of Science.—Continued.

1916.		
Watkins, Stewart Byron ..	Scholarship for Original Chemical Research, 1916	1st cl. Chemistry
Vance, Grace Winifred ..	..	2nd cl. Geology
†James Frederic William ..	..	2nd cl. Physics
1917.		
Walker, Mavis Jean .. ..	..	1st cl. Biol.
Sterne, Ilma Ruby .. ..	Gold Medal	1st cl. Geol.
Haines, Vera .. ..	..	2nd cl. Biol.
1918.		
Bancroft, Mabel Josephine ..	Walter and Eliza Hall Fellowship in Econ. Biology, 1917	2nd cl. Biol.
Drape, Olive Myrtle .. ..	..	2nd cl. Biol.
James, Gladys Ivonne .. ..	..	2nd cl. Biol.
Peberdy, Edna Florence .. ..	..	2nd cl. Biol.
*Cooling, George .. ..	Scholarship for Original Chemical Research, 1918	2nd cl. Chem.
*Evans, Clive Kerslake .. ..	..	2nd cl. Chem.
Graff, Roy .. ..	..	2nd cl. Geol.
Burton, Ernest Joseph .. ..	..	2nd cl. Math.

## Faculty of Engineering.

1915.		
†Wilson, Ronald Martin ..	Walter and Eliza Hall Travelling Fellowship	1st cl. Civ. Engineering
*McIntyre, Alex. Leahy ..	Gold Medal (Engineering)	2nd cl. Civ. Engineering
1917.		
Modrak, Peter .. ..	..	2nd cl. Mech. and Elec. Eng.

\* On Active Service.

† On Munitions Work.

**BENEFACTIONS BESTOWED BY PRIVATE PERSONS.**

Date.	Amount.	Donor.	Object of Foundation.
1910	£ s. d. 150	Thomas Morrow ... ..	Annual Prize, English Essay
1910	1,000	Robert Christison ... ..	Towards a Chair of Tropical and Semi-Tropical Agriculture
1910	100	G. L. Warry ... ..	Annual Prize for English Essay
1910	1,937 6 6	Trustees, University Equip- ment Fund*	For Purchase of Equipment and Library Books
1911	500	Trustees of the late John Archibald	Scholarship in Engineering
1911	160	Trustees, T. J. Byrnes Memorial Fund	Annual Medal for Best Pass in Junior Public Examination
1911	57	Brisbane Committee Sydney Public Examinations	Annual Prize (James Bruntton Stephens Prize) for a Best Essay on a Set Subject at Junior Public Examinations
1912	1,350	Sir Robert Philp. Amount presented to him by Sub- scribers to Robert Philp Memorial Fund	Scholarship for Physics Re- search
1913	105	Babcock and Wilcox ... ..	Engineering Equipment
1913	50	Anonymous ... ..	Faculty of Agriculture
1913	1,000	Colonial Sugar Refinery Coy., Ltd.	Chemical Research
1913	2,400	Subscribers in England† ... ..	Faculty of Agriculture
1914	416 16 2	W. B. Slade, Esq. ... ..	Towards a Scholarship
1914	1,000	Honourable Albert Norton	General
1914	2,670 8 7	Subscribers to Sir Thomas McIlwraith Memorial Fund	Engineering Scholarship
1915		Trustees of the late Walter and Eliza Hall‡ ... ..	
	300	... ..	Engineering Fellowship
	250	... ..	Economic Biology Fellowship
	200	... ..	Pure Chemistry Fellowship
	400	... ..	School of Applied Chemistry
	50	... ..	Incidental Expenses
1915- 16	1,800	Trustees of the late Walter Walter and Eliza Hall	Towards Cost of Erection and Equipment, Walter and Eliza Hall School of Ap- plied Chemistry
1916	202 6 0	Queensland University Ex- tension Council	John Thomson Lectureship
1917	100	Ford Memorial Medal Fund	Annual Prize for an English Poem

\* For List of Donors to this Fund, see University Calendar for 1911-12, at p. 117.

† For List of Donors to this Fund, see University Calendar for 1914, p. 227.

‡ The Walter and Eliza Hall Fellowships in Engineering, Economic Biology, and Pure Chemistry, and the Walter and Eliza Hall School of Applied Chemistry are being endowed by the Trustees of the Walter and Eliza Hall Trust. The amount entered above represents the annual endowment in each case.

**REPORT OF THE SENATE OF THE UNIVERSITY OF  
QUEENSLAND FOR THE YEAR ENDING 31ST  
DECEMBER, 1917.**

1. The Senate of the University of Queensland, in pursuance of the provisions of section 28 of "*The University of Queensland Act of 1909*," has the honour to transmit to His Excellency the Governor in Council a report of the proceedings of the University during the year ending 31st December, 1917.

THE CHANCELLOR AND VICE-CHANCELLOR.

2. At the first meeting of the Senate held after the first Tuesday in March, 1917, the Senate elected the Honourable Sir Pope Alexander Cooper, K.C.M.G., M.A., Chief Justice of Queensland, to be Chancellor, and the Honourable A. J. Thynne, M.L.C., to be Vice-Chancellor.

THE WARDEN OF THE COUNCIL.

3. At the first meeting of the Council held after the first Tuesday in March, 1917, the Council elected the Honourable Sir Robert Philp, K.C.M.G., to be Warden.

MEETINGS OF SENATE.

4. During the year the Senate held nine ordinary meetings. The attendance at these meetings was as follows:—

Name.	Number of Meetings Attended.
Cooper, Hon. Sir P. A. . . . .	5
Thynne, Hon. A. J. . . . .	7
Crampton, Hon. W. R. . . . .	3
Donaldson, Archbishop . . . . .	5
Duhig, Archbishop . . . . .	5
Gibson, Professor A. J. (absent on leave) . . . . .	—
Hardacre, Hon. H. F. . . . .	2
Henderson, J. B. . . . .	6
Hinchcliffe, Hon. A. (resigned 13th June, 1917) . . . . .	—
Jackson, E. S. . . . .	—
McCormack, Hon. W. . . . .	1



MEETINGS OF SENATE—*continued.*

Name.					Number of Meetings Attended.
McDonnell, Hon. F. .. .. .	..	..	..	..	2
Merrington, Rev. E. N. .. .. .	..	..	..	..	8
Michie, Professor J. L. .. .. .	..	..	..	..	8
Priestley, Professor H. J. .. .. .	..	..	..	..	8
Robertson, W. N. .. .. .	..	..	..	..	7
Rowe, Rev. G. E. .. .. .	..	..	..	..	6
Ryan, Hon. T. J. .. .. .	..	..	..	..	—
Story, J. D. .. .. .	..	..	..	..	8
Woolnough, G. .. .. .	..	..	..	..	8

## UNDERGRADUATES.

5. The number of undergraduates who matriculated in March, 1917, was 59. Of these, 23 were women.

The number actually attending lectures and laboratories or working under the direction of the Correspondence Study Department during the year was as follows:—

Faculty.	DAY STUDENTS.				Evening Students.	External Students.	Total.
	1st Year.	2nd Year.	3rd Year.	4th Year.			
Arts—							
Men .. .. .	12	4	6	..	15	38	75
Women .. .. .	25	12	9	..	10	9	65
Science—							
Men .. .. .	15	7	6	..	6	..	34
Women .. .. .	5	4	3	..	1	..	13
Engineering—							
Men .. .. .	8	5	1	1	..	..	15
Non - Matriculated Students taking single subjects—							
Men .. .. .	..	..	..	..	5	19	24
Women .. .. .	..	..	..	..	..	1	1
Totals .. .. .	65	32	25	1	37	67	227

## GRADUATION, 1917.

6. The following degrees were conferred by the Senate in 1917:—

## BACHELOR OF ARTS.

Allan, Mary May	Lockington, Dora Esther
Brown, Agnes Evelyn	Lord, Elvina Beryl
Eaves, Mary Aminda	McDermott, Sheila
Edwards, Lewis David	Morris, John
Foggon, Harriett Willard	*Pearse, Archibald Ernest Edgar
Forman, Olive May	Ruddell, Caroline Mary
Forrest, Vera Elphinstone	Smith, Ida Marion
Fowler, Joseph Longton	Sully, Hilda Jessie
Gilbert, Jeannette Anne	Thatcher, Thomas
Harrison, Charles Henry	Thompson, Francis Cecil
Harwood, Leonard John	Watson, Freda Charlotte Olivia
Heiner, Harry Hooper	Wishart, Pearl Marion
Holdaway, Ernest William Cue	

## MASTER OF ARTS.

Molesworth, Bevil Hugh.

## BACHELOR OF SCIENCE.

Adam, Catherine Lauretta	Peberdy, Edna Florence
Fletcher, Frederick Herbert	Peel, Harriet Jeannie
Haines, Vera	Sterne, Ilma Ruby
Longworth, Mortimer Alfred	†Wagner, John George
Manchester, Dorothy Annetta	Walker, Mavis Jean

## MASTER OF SCIENCE.

Waddle, Isaac.

## BACHELOR OF ENGINEERING.

*In Civil Engineering.*

Conroy, Adam William	Crellin, Stanley Quilliam
*Cornwall, Hubert Mackay	

*In Mechanical and Electrical Engineering.*

Modrak, Peter	*Scriven, Harry Edward Bennett
*Sherman, Thomas Louis	*Wrigley, James Harold

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\* On Active Service.

† On Munitions Work.

## DEGREE EXAMINATIONS.

7. Details of the numbers of undergraduates who sat for examination at the end of the academic year 1917, and have completed their respective years, appear in the table hereunder:—

FACULTY.	FIRST YEAR.		SECOND YEAR.		THIRD YEAR.		FOURTH YEAR.		EVENING STUDENTS.		EXTERNAL STUDENTS.		TOTAL.	
	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Obtained Credit for Certain Subjects.	Sat.	Obtained Credit for Certain Subjects.	Sat.	Obtained Credit for Year's Work.
Arts ... ..	30	25	18	14	6	4	...	...	13	12	22	13	60	68
Science ... ..	20	13	11	11	9	9	...	...	7	7	...	...	47	40
Engineering ... ..	8	6	4	3	3	3	...	...	...	...	...	...	15	12
Totals ... ..	58	44	33	28	18	16	...	...	20	19	22	13	151	120

## UNIVERSITY PRIZES AND SCHOLARSHIPS.

8. The awards of University Prizes and Scholarships during the year 1917 were as follows:—

- (a) *The Gold Medals*, established by the Government of Queensland for outstanding Merit in any Department. Ilma Ruby Sterne; Thomas Thatcher.
- (b) *Scholarship for the Encouragement of Original Chemical Research*, established by the Government of Queensland. Annual value, £100; tenable for two years. No award.
- (c) *Scholarship for Engineering*, established by the Government of Queensland. Two scholarships. Annual value, £100 each; tenable for one year. No award.
- (d) *Foundation Travelling Scholarship*, established by the Government of Queensland. Annual value, £200; tenable for two years. Walde Gerard Fisher.\*

\* Lieutenant, A.I.F., killed in action, 5th April, 1918.

- (e) *The Thomas Morrow Prize*, established by Thomas Morrow, Esquire, for an Essay on a subject of purely Australian interest. Book prize awarded out of annual interest on sum of £150. Subject: "The Future Application of Science to Australian Industries." Roy Graff.
- (f) *The Archibald Scholarship*, established by the beneficiaries in the estate of the late Honourable John Archibald, M.L.C., for the best Essay on a subject connected with the Theory and Practical Application of Economics. Annual interest on a sum of £500. Subject: "Urban Rents, their Nature, Tendencies, and Economic Significance." Edward James Droughton Stanley, B.A.
- (g) *The Lizzie Heal-Warry Prize*, established by Lizzie Heal, late wife of the late G. L. Warry, Esquire, for the first-year woman student who is most proficient in English. Book prize provided out of annual interest on sum of £100. No award.
- (h) *The Robert Philp Scholarship*, established by Sir Robert Philp, with moneys presented to him, for graduate who has shown the greatest general proficiency in Physics throughout his course. Annual interest on sum of £1,366 14s. 3d. and accumulations; tenable for one year. No candidate.
- (i) *The Sir Thomas McIlwraith Engineering Scholarships*, established by public subscription as a memorial to the late Sir Thomas McIlwraith in recognition of his long and valuable services to the Colony of Queensland. Two scholarships of annual value of £40; tenable for one year. No award.

9. The following undergraduates qualified for admission to degrees:—

*Faculty of Arts.*

Bachelor of Arts.

A.—*With Honours:*

(a) First Class—

- (i.) In Classics: Herbert Victor Byth, Thomas Alexander Entriken.
- (ii.) In Mental and Moral Philosophy: Ursula Hope McConnel.

*(b)* Second Class—

(i.) In Modern Languages and Literature: Olive Adam.

*(c)* Third Class—

(i.) In Classics: Elsie Victoria Fitzpatrick, Vincent David McCarthy.

B.—*Pass Degree:**(a)* Day Students: Isabel Aldridge, Mary Kathleen Andrews, Lucy Baynes Cribb, Lionel George Lukin, Agnes Jane Moore.*(b)* Evening Students: John McLeod Campbell, Georgina Isabel Fletcher, Annie Millicent Peterson.*(c)* External Students: Allan MacDonald Mackillop, Doris Frampton McIntyre, John Spelman Salisbury, William Arthur Viggers.

## Master of Arts.

Eric Maxwell Fisher, James Patrick McCarthy, Hilda Margaret McCulloch, Charles Schindler, Annie Sheldon.

*Faculty of Science.*

## Bachelor of Science.

A.—*With Honours:**(a)* Second Class—

(i.) In Biology: Mabel Josephine Bancroft, Olive Myrtle Drape, Gwladys Yvonne James.

(ii.) In Chemistry: George Cooling, Clive Kerslake Evans.

(iii.) In Geology: Roy Graff.

(iv.) In Mathematics: Ernest Joseph Burton.

B.—*Pass Degree:*

## Day Students—

Herbert McCulloch, Isabella Jane Ward.

## Master of Science.

Grace Winifred Vance, Stewart Byron Watkins.

## THE WALTER AND ELIZA HALL BENEFACTIONS.

*(a) Walter and Eliza Hall Engineering Fellowship.*

10. Mr. Ronald Martin Wilson, B.E., the holder of the Walter and Eliza Hall Engineering Fellowship, in the ordinary course, would have returned to the University to undertake special lectures and demonstrations. He, however, obtained leave of absence, and during the year has been engaged in Munitions Work in England. His performance of the conditions of his Third Year's tenure of the Fellowship has been postponed.

*(b) Walter and Eliza Hall Endowment of Research.**(i.) Walter and Eliza Hall Fellowship in Economic Biology.*

11. Dr. T. Harvey Johnston, the Walter and Eliza Hall Fellow in Economic Biology, has continued his investigations regarding the tick problem and the parasitology of the Australian Stock and native fauna. A report on the endoparasites of the pigeon is being published in the *Memoirs of the Queensland Museum* (vol. 6, 7 pages); while an account of the fish cestodes collected by the Commonwealth trawler F.I.S. "Endeavour" is being prepared.

During the year a serious epidemic made its appearance amongst the fresh-water fish of this State, a very wide expanse of territory being affected. So great was the destruction that the water supply of several inland towns was in grave danger of pollution. The problem was investigated, and its cause found to be a tiny fungoid parasite. A report on the matter has been published, under the title "Notes on a *Saprolegmia* Epidemic amongst Queensland Fish," in the *P.R.S., Queensland*, 1917, pp. 125-131.

At the request of the Principal Medical Officer for the Queensland Military District, Dr. Johnston carried out experiments with a view to determining whether the human blood fluke (*Bilharzia* or *Schistosimum*) brought back by returned Australian soldiers (infected in Egypt chiefly) could become established in this State. Infection experiments with various fresh-water gastropod molluscs have so far proved negative. When more infective material becomes available, he hopes to continue the investigation.

In the last report reference was made to Dr. Johnston's appointment to two special sub-committees of the Federal Advisory Council of Science and Industry. The reports of these committees have been published (1917) as Bulletins No. 1 and No. 2, and entitled "The Cattle Tick in Australia" and "Worm Nodules in Cattle," respectively.

The tropical coasts of Australia, especially of Queensland, afford scope for extensive researches of an economic nature—*e.g.*, matters relating to fisheries, pearl and other shell fisheries, bêche-de-mer, sponges, &c. The Commonwealth Advisory Council recognised this, and appointed a small committee for the purpose. During the year, Dr. Johnston's name was added to this special sub-committee on the "Marine Biological Economics of Tropical Australia."

Work on the tick problem has been continued, and he has now undertaken to investigate the biology of the cattle tick at the request and with the financial assistance of the Commonwealth. Owing to the nature of this inquiry, Dr. Johnston deemed it advisable to resign his position as Fellow in Economic Biology at the end of the year, but has agreed to assist the newly-appointed Fellow (Miss M. J. Bancroft,

B.Sc.), who, it is proposed, will carry on the work on certain other aspects of the tick question, as well as investigate the problem of worm nodules in Queensland cattle.

(ii.) *Walter and Eliza Hall Fellowship in Pure Chemistry.*

12. Dr. H. G. Denham, the Walter and Eliza Hall Fellow in Pure Chemistry, has continued his research in connection with the preparation and properties of subhaloid salts of lead. His paper, entitled "Lead Subiodide and an Improved Method for Preparing Lead Suboxide: The Solubility of Lead Iodide," which was submitted to the Chemical Society of London, was accepted for publication and appeared in the January number of that Society's journal.

Further work on the subhaloid salts of lead has since been carried out; and a second paper on the "Preparation and Properties of Lead Subbromide and Subchloride" has recently been forwarded to the above society for publication. Preliminary experiments on the preparation of lead sub-sulphate and subacetate are being carried out and will be continued during the forthcoming session.

A considerable amount of work has also been carried out in the endeavour to prepare pure samples of cadmium suboxide as a preliminary step in the preparation of the subsalts of cadmium; but beyond disproving the possibility of using cadmium oxalate as suggested by Tanatar, the experiments have given no definite results. A new method is being tried, and samples of cadmium suboxide contaminated by more or less metallic cadmium have been obtained; but further work is necessary before the suboxide can be prepared in a sufficiently pure form to be used in the preparation of the subsalts.



(c) *Walter and Eliza Hall School of Applied Chemistry.*

13. The apparatus is now installed and mostly in working condition.

Owing to the absence of senior students on War work, the regular laboratory work has not been started. There are, however, several entries of first and second year students who will probably start work in the laboratory next year.

The equipment of the laboratory has been put to use in connection with an investigation of mangrove bark as a tanning agent, being carried out at the request of the Commonwealth Bureau of Science.

Two essential oils from plants have also been examined.

A report on Queensland-grown camphor laurel was furnished to the Walter and Eliza Hall Trustees.

#### RHODES SCHOLARSHIP, 1918.

14. In view of the conditions arising out of the War, the Rhodes Trustees decided to postpone all elections during the year 1917, and declared candidates eligible during 1917 to be eligible in 1918. In consequence of this, there was no election for Queensland Rhodes Scholar for 1918.

#### THE JOHN THOMSON LECTURESHIP.

15. The Senate, on the recommendation of the Board of Faculties, appointed G. Elton Mayo, B.A., Lecturer in Logic, Ethics, and Psychology in the University, to be the John Thomson Lecturer for 1917.

Mr. Elton Mayo delivered two lectures on the Psychology of Politics. The Lectures will be printed for exchange purposes.

## THE UNIVERSITY SITE.

16. The Bill to enable the Council of the City of Brisbane to convey the 111 acres in Victoria Park to the University, and thus carry out the arrangement for the acquisition of a permanent site, has not again been brought forward in Parliament; and the matter stands where it did at the end of 1916.

## ORIENT FREE PASSAGES.

17. No applications were received for the two free passages given by the Orient Steam Navigation Company to students who have gone through a prescribed course of study.

## THE TEACHING STAFF.

18. No changes have taken place on the teaching staff during the year. The special arrangements made in 1916 for carrying on the work of the University in the absence of members of the staff on active service have been continued. Mr. S. G. Lusby, M.A., Assistant Lecturer in Physics, has been placed in charge of the Department of Physics during the absence of the Lecturer in Physics (Mr. T. Parnell, M.A.) on active service.

## THE GREAT WAR.

19. The list of members of the University engaged at home and in the field upon duties connected with the war, which was appended to the last annual report, has been brought up to date, and is appended hereto.

## COMMONWEALTH BUREAU OF SCIENCE AND INDUSTRY.

20. The Advisory Council on Science and Industry met in Melbourne on 9th, 10th, and 11th July, 1917, when Dr. H. C. Richards attended to represent the University of Queensland.

On receipt of the report of the meeting, the Senate resolved to ask the Government to place on the Estimates for the year 1917-8 the sum of £500 for purposes of Economic and Industrial Research in the University on the following subjects:—

1. The Blow Fly Pest;
2. The Cattle Tick;
3. The Worm Nodule;
4. Potash Resources;
5. Clays and Pottery;
6. The Banana Borer;
7. Light Oils, &c., from Coal;
8. Essential Oils.

#### UNIVERSITY RESEARCH.

21. At the suggestion of the Faculty of Science, sub-committees have been appointed for the investigation of the following natural products of Queensland:—

1. Potash-bearing Rocks and Minerals.
2. The occurrence and nature of Queensland Coals, and the method of working them to obtain Light Oils by a direct process.
3. The mode, origin, and occurrence of the rare contact Minerals (Molybdenite, Wolfram, Scheelite, &c.) used in the Manufacture of Steel.
4. The Flora with respect to essential Oils and Drugs.

The sub-committees have reported to the Senate on preliminary questions; but no further work can be done until funds are available.

## CATTLE TICK BIOLOGY RESEARCH:

22. In August, 1917, the Executive of the Commonwealth Advisory Council of Science and Industry consulted Dr. T. Harvey Johnston, Lecturer in Charge of the Department of Biology, in regard to the organisation and control of investigations regarding the "Biology of the Cattle Tick." The work suggested was to be directed particularly to the determination of the length of time taken by the tick to pass through the various stages of its existence under different climatic conditions and in different localities. The Senate readily assented to the scheme of work drawn up by Dr. Johnston and adopted by the Executive Council, and expressed their willingness that the University Biological laboratories and equipment should be used as far as possible to further the scheme of research.

The Commonwealth Government having provided the sum of £1,200 for the inquiry for one year, work was commenced on 1st October, 1917. At the present time there are four localities at which work is in progress, namely:—

Brisbane.—Head centre; Dr. Johnston in charge.

Woolooga.—Miss M. J. Walker, B.Sc., Scientific Assistant.

Toowoomba.—Miss E. F. Peberdy, B.Sc., Scientific Assistant.

West Burleigh.—Miss G. Y. James, B.Sc., Scientific Assistant.

The Senate notes with satisfaction that the Scientific Assistants are all graduates of the University of Queensland.

## LIBRARY.

23. The Library has been increased by about 3,000 books and pamphlets, making a total of about 15,000 volumes. The shelving is rapidly becoming insufficient, and increased accommodation will soon be necessary.

The presence of white ants in the main building, in which the Library is housed, is a constant source of anxiety; and, despite every care, some damage has been done by these pests, as well as by borers and other vermin.

Provision has been made for treating the Library with cyanide of potassium during the long vacation, which it is hoped will minimise the danger.

#### BENEFACTIONS.

24. The Senate has received Gifts of Books from—  
Mr. Sydney Smith, Electric Telegraph Department.  
Mr. G. H. Knibbs, C.M.G., Commonwealth Statistician;  
The Geological Survey of Canada;  
The University of Groningen;  
The University of Leyden; and  
The Dutch Government.

#### THE STAFF AND THE WAR.

25. To the names of the members of the Staff employed in War work set out in the last report must be added the name of Mr. H. J. Priest, M.A., Assistant Lecturer in Mathematics, who was employed during the year upon local military work.

Mr. R. J. Cholmeley, B.A., Lecturer in Classics, has been awarded the Military Cross and promoted to the rank of Captain.

Other members of the Staff continue to be employed as before.

#### POST-WAR PROBLEMS.

##### *A. Agricultural Education.*

26. The Select Committee appointed in 1916 to deal with the matter of agricultural education completed its

labours and reported to the Senate during the year under review. The Senate is of opinion that the matter is so important to the State and the report so valuable that it is presented as an appendix to this report.

*B. Commercial Education.*

So far, it has not been found practicable for financial reasons to give effect to the recommendations contained in the Board of Faculties' report of last year in regard to the provision of University Courses in Commerce or the institution of Evening Courses in the Central Technical College leading up to the University Commercial Courses.

In regard, however, to the institution of a Commercial Group in the Public Examinations, Regulations have been made for the addition of a group of Commercial Subjects to the Junior Public Examination, details of which are published in the Manual of Public Examinations.

A Commercial Certificate will be granted to successful candidates in the Commercial group. In the interests of Education, the Senate expressed the opinion that an effort should be made to include a language other than English for any course leading to the Commercial certificate.

MUSIC EXAMINATIONS.

*Annual Conference.*

27. The Annual Conference under the Joint Scheme took place in May, 1917, in Melbourne. It was preceded by a Conference in Sydney between representatives of the State Conservatorium of Music of New South Wales and of the Joint Board. Mr. G. Sampson, F.R.C.O., attended as representative of the University of Queensland.

The Annual Conference dealt with certain recommendations from the Sydney Conference in regard to the entrance of the Conservatorium of Music of New South Wales as a member of the Joint Scheme. These have been adopted by the parties to the agreement for the Joint Scheme, and have been incorporated in a new agreement. The parties to the new agreement are the Universities of Melbourne, Adelaide, Tasmania, Queensland, and Western Australia, and the State Conservatorium of Music of New South Wales. This agreement will be in force for two years from the 1st January, 1918.

It provides for the establishment of a Central Board to be known as the Australian Music Examination Board. The adhesion of New South Wales to the Joint Scheme makes it coterminous with the Commonwealth.

*Music Examinations, 1917.*

28. Examinations were held in September, 1917, in theory and practice with the results following:—

				<i>Music Examinations.</i>			
				Entered.	Passed.		
Practical	..	..	..	50	..	39	
Theory	..	..	..	156	..	106	
Totals				206	..	145	

Centres.—Brisbane, Ipswich, Toowoomba, Warwick, Gympie, Maryborough, Townsville, Charters Towers.

WORKERS' EDUCATIONAL ASSOCIATION.

29. The Joint Committee succeeding the former Committee of Management met for the first time on 14th June.

The committee drafted and sent to the Senate for approval various rules and regulations concerning the nature

and function of tutorial classes, the appointment of a director and tutors, &c.

*General Progress.*

30. The session of 1917 started with two tutorial classes and three study classes. One of these study circles was combined with a tutorial class; thus leaving two tutorial classes and two study circles. These have been continued throughout the session with the addition of two further study circles. The session of 1918 will start with five tutorial classes and an increased number of study circles.

The following is a list of classes and study circles carried on during 1917:—

*Tutorial Classes—*

Economic History and Economics (two classes), Mr. T. C. Witherby and Mr. A. C. Melbourne.

*Study Circles—*

Mathematics, Professor Priestley.

Biology, Miss Bage.

Political Science, Mr. Witherby.

English Literature, Mr. Witherby.

The last three will become Tutorial Classes in 1918.

The total number of students enrolled during 1917 was 143. The number of students attending over six times is 72; and of these latter the average attendance percentage was 71.

PUBLIC EXAMINATIONS.

31. The number of entries received for the Senior Public Examination was 179, and for the Junior Public Examination 1,135. The number who actually sat for the Senior Examination was 178. In the Junior Examination 11



candidates were prevented by reason of illness from sitting for the examination; and 2 entered for one subject only, for special purposes. The number who sat for Junior certificates was therefore 1,122.

In the Senior Examination, 103 candidates (or 57·5 per cent.) qualified for certificates; in the Junior Examination, 543 (or 48·4 per cent.) were successful.

The centres from which entries were received, and the number of successful candidates from each centre, are as follows:—

Centre.	SENIOR.		JUNIOR.	
	Sat.	Passed.	Sat.	Passed.
Brisbane .. .. .	81	35	453	199
Beaudesert .. .. .	..	..	1	..
Bundaberg .. .. .	..	..	18	11
Charters Towers .. .. .	8	5	44	26
Childers .. .. .	..	..	11	1
Cooktown .. .. .	..	..	1	..
Dalby .. .. .	..	..	6	4
Gatton .. .. .	3	3	21	15
Gympie .. .. .	5	3	50	40
Herberton .. .. .	..	..	7	5
Ipswich .. .. .	15	15	95	48
Mackay .. .. .	6	4	13	9
Maryborough .. .. .	8	6	39	23
Mount Morgan .. .. .	5	4	24	18
Nudgee .. .. .	20	11	72	40
Pittsworth .. .. .	..	..	7	2
Rockhampton .. .. .	10	6	67	41
Roma .. .. .	..	..	4	3
Southport .. .. .	6	2	13	6
Stanthorpe .. .. .	..	..	3	3
Toowoomba .. .. .	6	4	85	50
Townsville .. .. .	3	2	43	19
Warwick .. .. .	3	3	41	20
Wynnum .. .. .	..	..	4	..
Totals .. .. .	179	103	1,122	583

The results of the candidates in the several subjects were as shown hereunder:

*Junior Subjects.*

Subject.	Sat.	Merit.	Passed.	Failed.
English .. .. .	1,120	31	602	487
French .. .. .	879	16	415	448
German .. .. .	20	4	11	5
Latin .. .. .	642	34	339	269
Greek .. .. .	10	3	7	..
Arithmetic .. .. .	1,099	82	628	389
Algebra .. .. .	1,022	72	616	334
Geometry .. .. .	970	60	533	377
English History .. .. .	974	15	556	403
Geography .. .. .	1,033	99	512	422
Chemistry .. .. .	256	17	132	107
Physics .. .. .	407	30	230	147
Geology .. .. .	64	6	33	25
Botany .. .. .	79	8	50	21
Physiology .. .. .	172	20	73	79
Freehand Drawing .. .. .	196	14	92	90
Geometrical Drawing and Perspective .. .. .	185	17	106	62

*Senior Subjects.*

Subject.	Sat.	Merit.	Passed.	Failed.
English .. .. .	177	11	105	61
French .. .. .	111	5	66	45
German .. .. .	33	3	20	10
Latin .. .. .	123	7	74	42
Greek .. .. .	9	3	6	..
Mathematics A .. .. .	175	18	96	61
Mathematics B .. .. .	114	8	62	34
Modern History .. .. .	74	7	40	27
Ancient History .. .. .	52	5	36	11
Geography .. .. .	54	17	30	7
Chemistry .. .. .	45	6	27	12
Physics .. .. .	71	7	38	26
Geology .. .. .	5	..	3	2
Biology .. .. .	18	3	12	3
Surveying and Astronomy .. .. .	2	1	1	..
Applied Mechanics .. .. .	1	..	1	..
Geometrical Drawing and Perspective .. .. .	2	..	2	..
Freehand and Model Drawing .. .. .	8	..	5	3
Drawing in Colour .. .. .	2	..	2	..

The following prizes were awarded in connection with the Public Examinations:—

- (a) The James Brunton Stephens Essay Prize:  
Gwendoline Merina Kay, Central Technical College, Brisbane.
- (b) The Thomas Joseph Byrnes Memorial Medal:  
Harold McCulloch, Boys' Grammar School, Ipswich.

ACCOUNTS.

A statement containing a true and detailed account of the income and expenditure of the University during the year ending 31st December, 1917, duly certified by the Auditor-General, is appended hereto.

I have the honour, &c.,

POPE A. COOPER,  
Chancellor.

UNIVERSITY OF QUEENSLAND.

BEQUESTS AND DONATIONS.

Particulars.	Balance, 1st January, 1917.		Received during 1917.		Total.		Expended or Invested during 1917.		Balance, 31st December, 1917.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Thomas Morrow Prize Fund	28	8 3	6	0 11	29	9 2	...	...	29	9 2
Lizzie Heal-Warry Prize Fund	4	4 0	4	0 0	8	4 0	3	19 8	4	4 4
University Equipment Fund	125	0 3	4	7 6	129	7 9	5	9 6	123	18 3
R. M. Christison Benefaction	228	10 10	42	17 11	271	8 9	...	...	271	8 9
James Bruntton Stephens Essay Prize Fund	14	14 1	2	18 10	17	12 11	...	...	17	12 11
Thomas Joseph Byrnes Memorial Medal Fund	13	7 4	6	1 4	19	8 8	8	0 0	11	8 8
Archibald Scholarship Fund	80	11 8	20	8 1	100	19 9	17	10 0	83	9 9
Robert Philip Scholarship Fund	238	12 4	57	19 1	296	11 5	...	...	296	11 5
Sundry Donations	15	15 6	...	...	15	15 6	...	...	15	15 6
Donations—Faculty of Agriculture	3,641	5 0	127	8 9	3,768	13 9	...	...	3,768	13 9
Donation—Chemistry Equipment (Colonial Sugar Refining Company)	1,092	14 0	38	4 5	1,130	18 5	246	14 8	884	3 9
Slade Scholarship Fund	446	11 1	15	12 3	462	3 4	...	...	462	3 4
George Essex Evans Memorial	9	14 0	...	...	9	14 0	1	10 0	8	4 0
McLwraith Scholarship Fund	119	16 10	126	7 7	246	4 5	...	...	246	4 5
Walker and Eliza Hall	...	...	...	...	...	...	...	...	...	...
(a) Fellowship in Pure Chemistry	210	19 5	401	7 3	612	6 8	466	0 0	146	6 8
(b) Fellowship in Economic Biology	282	17 0	524	0 0	806	17 0	493	15 5	313	1 7
(c) School of Applied Chemistry	714	10 5	400	0 0	1,114	10 5	1,068	4 1	46	6 4
(d) Incidental Expenses	168	18 4	100	0 0	268	18 4	121	15 7	147	2 9
Albert Norton Bequest	516	5 7	18	1 3	534	6 10	...	...	534	6 10
Donation—Engineering Equipment	115	10 4	4	0 6	119	10 10	...	...	119	10 10
John Thomson Lectureship	202	5 0	7	0 0	209	6 0	12	0 0	197	6 0
Ford Memorial Medal Fund	...	...	100	0 0	100	0 0	*100	0 0	...	...
	£	8,205 12 3	2,006 15 8	10,272 7 11	2,544 18 11	7,727 9 0				

\* Invested in Queensland Government Debentures.

## UNIVERSITY OF QUEENSLAND.

## STATEMENT OF INCOME AND

		INCOME.		£	s.	d.	£	s.	d.
Balance, 1st January, 1917	..	..	..	..	..	..	20,890	1	10
<i>General Fund—</i>									
Government Endowment	..	..	..	15,300	0	0*			
Interest and Bank Charges	..	..	..	392	4	7			
Lecture Fees	..	..	..	1,363	12	2			
Laboratory Fees	..	..	..	192	12	0			
Fees for use of Apparatus	..	..	..	114	16	0			
Matriculation Fees	..	..	..	61	19	0			
Graduation Fees	..	..	..	132	6	0			
Sale of Calendars, &c.	..	..	..	33	3	1			
Degree Examination Fees	..	..	..	310	18	0			
Public Examination Fees	..	..	..	1,813	2	9			
Music Examination Fees	..	..	..	126	1	6			
Refund—Expenses of Chemists for Muni- tations Work	..	..	..	37	13	6			
Miscellaneous Receipts	..	..	..	18	13	9			
							19,897	2	4
<i>Workers' Tutorial Classes—</i>									
Government Grant	..	..	..	..	..	..	150	0	0
<i>Bequests and Donations—</i>									
Amount Received during 1917, as shown in separate Statement attached	..	..	..	..	..	..	2,006	15	8
							<u>£42,943</u>	<u>19</u>	<u>10</u>

*Bank Balances, 31st December, 1917.*

		£	s.	d.
Queensland Government Savings Bank	..	..	21,146	10 10
Queensland National Bank	..	..	463	3 10
Less Outstanding Cheques	..	..	374	14 0
				<u>88 9 10</u>
Balance as shown opposite	..	..	£21,235	0 8

\* Includes endowment for first quarter of the year 1918.

UNIVERSITY OF QUEENSLAND.

271

EXPENDITURE FOR THE YEAR 1917.

		EXPENDITURE.			
		£	s. d.	£	s. d.
<i>General Fund—</i>					
Public Examinations	.. .. .	..	..	1,983	14 6
Degree Examinations	.. .. .	..	..	256	8 4
Music Examinations	.. .. .	..	..	175	5 3
Refund of Apparatus Fees	.. .. .	..	..	24	3 9
<i>Salaries—</i>					
Professors	.. .. .	3,187	2 6		
Lecturers and Demonstrators	.. .. .	7,360	10 6		
Administrative Staff	.. .. .	1,220	1 11		
Department of Correspondence Studies	.. .. .	732	0 0		
Library Staff	.. .. .	158	10 0		
Laboratory Staffs	.. .. .	1,145	15 7		
				14,104	0 6
<i>Departmental Maintenance—</i>					
Engineering Department	.. .. .	162	10 7		
Chemistry Department	.. .. .	123	10 2		
Physics Department	.. .. .	94	10 8		
Geology Department	.. .. .	106	17 5		
Biology Department	.. .. .	126	11 9		
Department of Correspondence Studies	.. .. .	24	17 0		
Library	.. .. .	333	13 1		
Gas for Laboratories	.. .. .	65	19 11		
				1,038	10 7
<i>Administrative Expenses—</i>					
Lighting	.. .. .	86	4 7		
Postage and Petty Cash	.. .. .	86	18 5		
Office Equipment	.. .. .	9	11 9		
Rates and Insurances	.. .. .	211	5 9		
Travelling Expenses	.. .. .	30	0 0		
Cleaning	.. .. .	165	2 0		
Legal Expenses	.. .. .	60	10 6		
Printing, Stationery, &c.	.. .. .	328	12 5		
Expenses, Appointments	.. .. .	10	9 0		
Original Papers	.. .. .	7	16 6		
Ceremonies	.. .. .	1	19 4		
Miscellaneous Expenditure	.. .. .	42	3 6		
Printing of Calendar, &c.	.. .. .	411	19 6		
				1,452	13 3
<i>Workers' Tutorial Classes—</i>					
Clerical Assistance for Acting Director	.. .. .	83	6 8		
Lantern Slides, Hire of Lantern, &c.	.. .. .	39	16 6		
Postage, &c.	.. .. .	6	0 11		
				129	4 1
<i>Bequests and Donations—</i>					
Amount expended or invested, as shown in separate Statement	.. .. .	..	..	2,544	18 11
Total Expenditure	.. .. .	..	..	21,708	19 2
<i>Balance, 31st December, 1917—</i>					
General Fund	.. .. .	13,486	15 9		
Workers' Tutorial Classes	.. .. .	20	15 11		
Bequests and Donations, as in separate Statement	.. .. .	7,727	9 0		
				21,235	0 8
				£12,943	19 10

J. F. McCAFFREY, Accountant.

## APPENDIX I.

**ROLL OF HONOUR.**

## MEMBERS OF THE UNIVERSITY.

Frederick George Pitty Barbour	Donald MacNeill
Sydney Stanna Bond	Frank Arnold Manders
Philip Gerald Browne	John Alexander Noble
Kenneth MacKenzie Brydon, B.E.	Arthur Wellesley Oakes, M.A.
Leslie Norman Collin	Wilfred Price Simmonds
Walde Gerard Fisher, B.A.	Harry St. George Taylor
Sydney Kelso Ford	William Campbell Thomson
*Trevor Francis	Roy Cumestree Trout
Edgar Cullen Hall	Cyril Cutcliffe Ward
Albert Edward Harper	George Colin Campbell Wilson
Frank Granville Haymen	†Charles Robertson Wonderly, B.A.
Charles Chalmers Jameson	Neville Hunter Young
Trevor Warwick Jones	
Leonard Francis MacDonnell	

## NON-MATRICULATED.

William Frederick Donisch.

## ADMINISTRATIVE STAFF.

William Arthur Cramb.

**ROLL OF SERVICE.**

Robert Clegg Aland	George Cooling, B.Sc.
Albert Edwin Axon	Hugh Mackay Cornwall, B.E.
Daniel Eric Baldwin	Frederick Gordon Crane
Walter Stanley Bath	*Eric Clarke Cribb
Roy Benjamin	Edwin Boyd Cullen
Frederick John Biggs	Ewan Curwen-Walker
George Oswald Boulton	Raymond Arthur Dart, M.Sc., M.B.
James Logan Briggs, B.A.	William Charles Day
Webster Briggs	William Victor Diamond
*Percival Henry Brown, B.E.	Hector William Dinning, B.A.
*Walter Heywood Bryan, M.Sc.	Walter Mather Douglas
†Arthur Graham Butler, M.B.	James Wilson Dowrie
Herbert Victor Byth	Gordon Allan Dunbar
Reginald John Cassidy	Frank Wheatley Dunstan
*Roger James Cholmeley, B.A.	

\* Military Cross.

† Military Medal.

‡ D.S.O.

Percy Charles Eckersley	Alexander Leahy McIntyre, B.E.
Clive Kerslake Evans, B.Sc.	Russell John McWilliam
Frank Fielding	Alexander Clifford Vernon Melbourne, B.A.
John Neill Florence	Rhubert William Henry Mellor
Leonard Hardwick Foote	Ernest Northcroft Merrington, M.A.
Duncan Fowles	Alexander Stuart Hull Moody
Eric Francis	John Francis Neilson, B.Sc.
Alan Philip Frankel	George Oakley Newton
John Denis Fryer	*Edwin Philip Norman, B.E.
David Garland	Owen Walter O'Brien, B.A.
Eric Cameron Craig Gee	Cornelius Daniel O'Keefe
Murray Douglas Graham	Francis William O'Sullivan
Robert Grant, B.A.	Thomas Parnell, M.A.
Austin Keyingham Gray, B.A.	Eric Honeywood Partridge
Alistair Bailey Grimes	Charles Raff Paterson
William Norman Gunson, B.A.	Frederic Woolnough Paterson
Robert Campbell Hamilton, B.A.	Arthur Francis Paton
Sir David Hardie, M.D.	Archibald Edgar Ernest Pearse, B.A.
Ragnar Hein	Roger Arnold Percy
Hereward Humfry Henchman, M.A.	Robert Stuart Philp
William Hirst	Hunter Robert George Poon
Richard Holtham, B.A.	Arthur Blaney Powe, B.A.
Alexander Horn, M.B.	*John Norman Radcliffe, B.A.
Harold William Horn	William Evelyn Dunsyrn Rankin
Frederick Godfrey Hughes	William James Reinhold, B.E.
Arthur John Huxham	†James Alexander Robinson, B.A.
Ernest Sandford Jackson, M.B.	Allan Warren Linford Row
Frederick William James, B.Sc.	George Edwards Rowe
Charles Henry Harris Jenkyn, B.A.	Richard Roper Saunders
Albert Harding Jones, B.A.	Alfred Ernest Schmidt
Charles Herbert Jones	Harry Edward Bennett Scriven, B.E.
Idrisyn Frederic Jones	Thomas Louis Sherman, B.E.
Harold Guy Walker Keid	Ernest Henry Smith
Charles Ambrose Kelly	‡Elias Albert Thelander
Eric William Kennedy	Eric Gordon Wagner
William Marquis Kyle	William Francis Watson
John Richard Lendrum	George Herbert Wilson
John Armstrong Lewis	William Watson Wilson
Norman Austin Lloyd, B.E.	James Harold Wrigley, B.E.
Eric Loney	
Francis William Rennick Lukin	
Alfred McCulloch	

\* Military Cross.

† D.S.O.

‡ Military Medal.



## NON-MATRICULATED STUDENTS.

Geoffrey James Penny                      Frederick Thomas Small

## ADMINISTRATIVE AND LABORATORY STAFFS.

John Dougal Cramb                      Charles Illidge  
 Harry Haynes                              George Wright  
 William Hoskins

## MUNITIONS WORKERS.

Edward Campbell Gustavus Barton	Charles Edwyn Lewis, B.E. Albert John Marsden, B.Sc.
Robert Alexander Boyle, B.Sc.	Reginald George Quinn, B.Sc.
Alexander James Gibson, Pro- fessor	Cecil Napier Ross, B.M.E. Henry Percival Singleton, B.Sc.
William Musa Bhai Fowler, B.E.	Bertram Dillon Steele, D.Sc., Pro- fessor
George Watson Hargreaves, M.Sc.	Kenneth ffoulkes Swanwick, B.A., LL.B.
Thomas Gilbert Henry Jones, M.Sc.	John George Wagner, B.Sc.
Roy Wooster Latimer	Stuart Byron Watkins, M.Sc.

## VOLUNTARY AID DETACHMENT, RED CROSS.

Darvall, Annie Emily Jane, B.A.

## HOME SERVICE.

Philip Henry Bonham	Jeremiah Joseph Stable, M.A.
Herbert James Priest, B.A., B.Sc.	Francis William Sutton Cum- brae-Stewart, B.A., B.C.L.
George Joseph Saunders, B.E.	

## APPENDIX II.

## AGRICULTURAL EDUCATION.

1. In determining the main principles on which a comprehensive and satisfactory scheme of agricultural education should be based, the following fundamental considerations must be kept in view:—

- (a) That Queensland is essentially a State of primary industries.
- (b) That her future prosperity depends largely upon the adequate and efficient development of the primary industries.
- (c) That Queensland manufacturing agencies must perforce handle local raw goods, and hence the secondary industries cannot hope to prosper unless the primary industries are properly developed.
- (d) That amongst the primary industries, Agriculture stands pre-eminent.
- (e) That it is from the primary industries that Australia will derive the greater part of her wealth; and, consequently, if the primary industries flourish, the huge burden of taxation, arising out of war loans and other loans, will be more easily met.
- (f) That a right conception of true Australian citizenship should embrace a knowledge of the economic conditions which are essential to the welfare of the country, and that the important

place which Agriculture occupies in Australian Economics should be clearly recognised.

- (g) That those measures should be encouraged which tend to increase and popularise rural occupations and thus not only lessen migration from country to town but increase migration from town to country.
- (h) That Agricultural Education is a matter for State and University concern rather than private concern; and that it should be closely interwoven with the State system and with University schemes and should not be a detached and isolated branch of education.

2. In view of the considerations set forth in paragraph 1, the main points which in devising a scheme of Agricultural Education for Queensland should be investigated might be summarised as follows:—

- (a) The extent to which the prosperity of the State depends upon the primary industries, and the extent to which State Revenue and private earnings are derived from the primary industries.
- (b) The proportion of the wage-earners of the State absorbed by the primary industries, directly or indirectly, and the proportion of other workers who would be benefited by an effective system of Agricultural Education.
- (c) The influence of the successful development of the primary industries on the rapidity of settlement of the unoccupied or only partly occupied lands; and the assistance

that an efficient scheme of Agricultural Education might give in the development of primary industries.

- (d) The bearing of settlement on providing an effective system of defence.

3. Accepting the foregoing as the main points for consideration, the next step is to determine—

- (a) The various types of employers and employees engaged directly or indirectly in the primary industries for whom a suitable type of education should be evolved.
- (b) The special form of education which would be most suitable for each type or group of types.

EXTENT TO WHICH THE PROSPERITY OF THE STATE  
DEPENDS UPON THE PRIMARY INDUSTRIES.

4. The present value of crops and animal products for one normal year may be estimated at approximately £21,000,000.

5. The value of live stock (including horses, cattle, sheep, and swine) on the 31st December, 1915, was £65,384,300.

6. The total State Revenue for the year 1915-16 amounted to £7,706,365. From the various departmental returns for the year, it is found that about one-third of that amount can be traced directly to the primary industries (not including mining). In the absence of helpful details as to the amount for which the primary industries should be credited on account of—

- (a) Railway passenger traffic, general goods traffic, carriage of agricultural machinery, etc.;

- (b) Income tax paid by merchants and companies concerned more or less in the primary industries;
- (c) Land tax paid by persons or companies engaged directly in primary industries or in business allied thereto;
- (d) The proportion of Federal income tax, Customs duties, etc., contributed by the primary industries to the Commonwealth Revenue, out of which the annual Commonwealth payment to the State is made;
- (e) "Other receipts," as included in the Government Estimates;

it is not possible to state the actual amount included in the State Revenue for which the primary industries are indirectly responsible.

7. It may be quite safely assumed, however, that half of the revenue of the State is derived directly or indirectly from the primary industries; and consequently liberal expenditure on Agricultural Education is warranted.

#### PROPORTION OF THE WAGE-EARNERS WHICH THE PRIMARY INDUSTRIES ABSORB.

8. The latest particulars available are contained in the Report of the Commonwealth Statistician for the year 1911. That report shows that out of each 100 wage-earners in the State 29.94 are employed in the primary industries; 3.10 are employed in the railway service; and 2.19 in shipping, etc. Thus it may be assumed that out of each 100 pupils, 35 find their way into the avenues of employment indicated.

## RAPIDITY OF SETTLEMENT.

9. The total area of the State is 429,120,000 acres. The following table indicates the extent to which the land is occupied:—

	Acres.
(1) In process of alienation	10,776,793
(2) Alienated by deed of grant .. .. .	16,447,382
(3) Streets, roads, reserves, etc. .. .. .	16,218,728
(4) Under grazing, scrub, and perpetual lease selection .. .. .	62,894,224
(5) Under occupation license	45,609,280
(6) Under pastoral lease ..	223,896,160
(7) Unoccupied .. .. .	53,277,433
Total .. .. .	429,120,000

10. The successful development of the primary industries will be the main factor in the settlement of the partly occupied or unoccupied lands which are suitable for settlement; and it naturally follows that if the population in country districts steadily grows through more intensive settlement, there should be a corresponding growth in the population in the towns, as there will be wider scope for commercial transactions arising out of country settlement and prosperity, and consequently greater opportunities of employment in the towns. The prospects of securing suitable immigrants after the war would be increased.

## DEFENCE.

11. It is obvious that the more thickly populated Australia becomes the better will she be able to establish and maintain an effective

system of defence; and it is abundantly evident that for purposes of defence, apart from the desirableness of land settlement, our northern littoral should be settled as quickly as possible consistently with the likelihood of the settlers earning a fair living for themselves and their families.

TYPES OF EMPLOYERS AND EMPLOYEES.

12. These types may be broadly classified as follows:—

(a) *Employers*—

Pastoral—

Owners of

- (i.) Sheep stations,
- (ii.) Cattle stations.

Selectors.

Agricultural—

Sugar-growers,  
Fruitgrowers,  
Dairymen,  
General farmers.

(b) *Employees*—

Pastoral—

Managers of

- (i.) Sheep stations,
- (ii.) Cattle stations.

Overseers,

Miscellaneous employees.

Agricultural—

Managers of

- (i.) Sugar farms,
- (ii.) Sugar mills,
- (iii.) General farms,
- (iv.) Butter factories, cheese factories, etc.

Engineers, agricultural chemists, etc.,  
Miscellaneous employees.

State employees—

Agricultural Advisers,  
Crown Land Rangers,  
Dairy Experts, Instructors, and Inspectors,  
Entomologists,  
Fruit Experts,  
Forestry Inspectors,  
Stock Inspectors,  
Meat Inspectors,  
Surveyors, Hydrologists.

Professional and Teaching—

University Teachers,  
Researchers,  
Heads and Staffs of Agricultural  
Bureaux, Colleges, and Schools.

Commercial—

Stock, station, and produce agents,  
Buyers of various kinds,  
Clerks,  
Assessors,  
Bankers,  
Manufacturers generally,  
Miscellaneous employees.



**TYPES OF EDUCATIONAL INSTITUTIONS OR  
AGENCIES REQUIRED.**

13. The special form of institutions or agencies which will be required may be summarised as follows:—

- (a) Primary schools;
- (b) Rural schools;
- (c) Secondary schools;
- (d) Agricultural colleges;
- (e) Technical colleges;
- (f) University;
- (g) Instruction by means of travelling experts;

14. The primary school should lead to—  
Rural school,  
Secondary school, or  
Suitable classes in Technical Colleges, or  
Employment as miscellaneous workers.

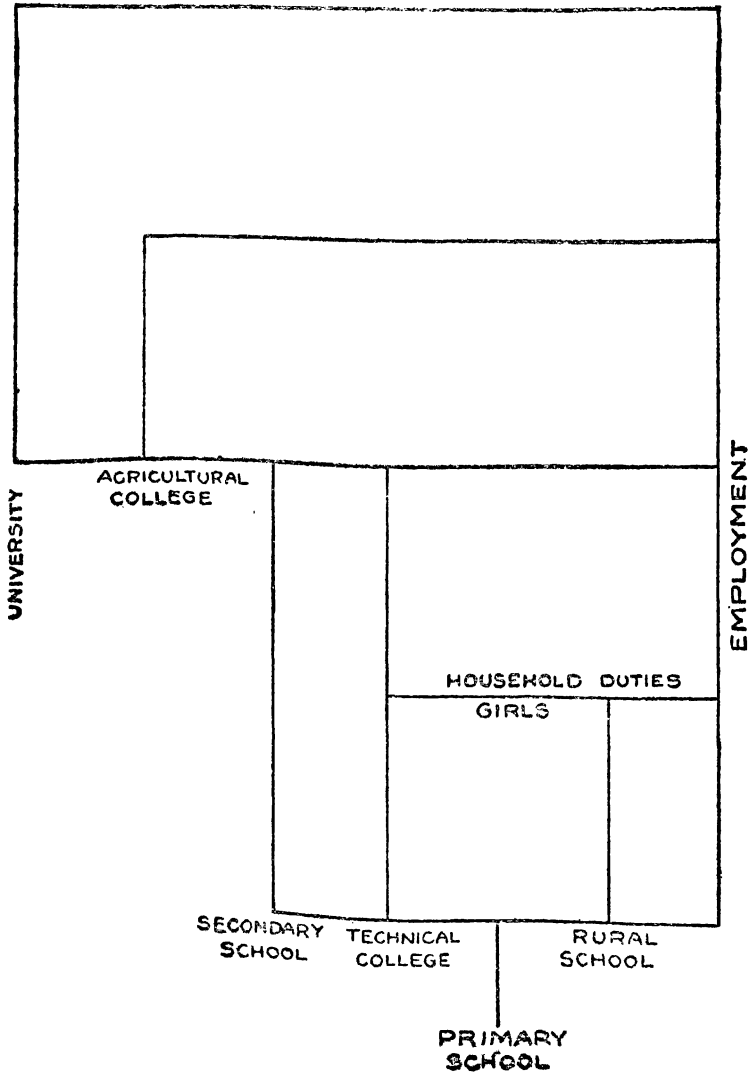
15. The rural school should lead to—  
Employment—  
Household duties (girls),  
Suitable classes in Technical Colleges.

16. The secondary schools should lead to  
the—  
Agricultural College,  
University,  
Employment.

17. The Agricultural College should lead  
to—  
The University,  
Employment.

18. The University should train students for  
the higher professional and specialised positions.

19. The following graph will illustrate the way in which these types of schools should be arranged so that effective co-ordination may be secured:—



## PRIMARY SCHOOLS.

20. In connection with the evolution of a suitable form of Agricultural Education for children of primary schools, seven types of primary schools have to be taken into consideration :—

- (a) Centres in which there are less than 30 children of school age and in which the establishment of full-time schools under unclassified teachers is warranted.
- (b) Centres which can maintain an average of from 30 to 200 and in which the establishment of primary schools under classified head teachers with adequate staffs is warranted.
- (c) Centres in agricultural districts which can maintain an average of not less than 200 pupils and which are surrounded by a series of small schools which could send their elder pupils to a Central School for specialised classes.
- (d) Centres like Warwick, Bundaberg, Gympie, Mackay, Cairns, in which the activities include commerce, professions, and trades, as well as agricultural activities, but which are not sufficiently large to maintain several distinct types of schools adapted to the several vocations.
- (e) Centres which are large enough to maintain distinct types of educational institutions, such as primary schools, secondary schools, technical colleges, trades schools, domestic schools, commercial schools, etc.

21. In regard to the foregoing types the Committee is of opinion:—

*Type A.*—Specialisation in Agricultural Education is neither possible nor desirable. School gardens and tree planting on a small scale should be encouraged. Teachers should be encouraged to follow the Departmental Syllabus for one-teacher schools.

*Type B.*—The Nature Study branch of the State School Syllabus should be followed. The work might include tree planting, garden work, or vegetable growing, etc. The field work should be of the nature of observation work rather than of experimental work. Extensive and laborious work should not be undertaken. Spasmodic work should be discouraged. The issuing by the Education Department of suitable bulletins on nature study and agricultural work should be continued.

*Type C.*—Rural schools of the kind recently established by the Education Department at Nambour should be established in those centres where there is a reasonable prospect that these schools could be permanently maintained.

The specialised subjects which could be taken in these schools should include—

Boys.—Woodwork, metal work, leather work.

Girls.—Cookery, including jam making, and fruit preserving, dressmaking, millinery, household hygiene.

Boys and Girls.—General elementary science.

*Types D and E.*—Adequate provision in the way of primary education already exists in these centres, and the system is so organised that, by means of scholarships and otherwise, the primary schools lead into the secondary schools, technical colleges, etc.

SECONDARY SCHOOLS.

22. The secondary schools must provide for three types of pupils:—

*Type—*

(A) Those intending to proceed to commercial positions in connection with the primary industries.

*Particulars.*—Stock, station, and produce agents, buyers of various kinds, clerks, assessors, bankers, manufacturers generally, miscellaneous employees.

(B) Those intending to proceed to an Agricultural College.

*Particulars.*—

*Employers.*—Owners of sheep or cattle stations, selectors, sugar-growers, fruitgrowers, dairymen, general farmers.

*Employees.*—Managers of sheep or cattle stations, overseers, managers of sugar-farms, sugar-mills, general farms, butter factories, cheese factories; engineers, agricultural chemists, etc., miscellaneous workers.

*State Employees.*—Agricultural Advisers, Crown Lands Rangers, Dairy Experts, Instructors, and Inspectors, Entomologists, Fruit Experts, Forestry Inspectors, Stock Inspectors, Meat Inspectors, etc., Surveyors, Hydrologists.

(C) Those intending to proceed to the University.

*Particulars.*—University Teachers, Researchers, Heads and Staffs of Agricultural Bureaux, Agricultural Colleges, and Rural Schools.

SECONDARY SCHOOL PUPILS PROCEEDING TO  
EMPLOYMENT.

23. The course prescribed for the proposed Commercial Junior Certificate (with perhaps the addition of a modern language) should be a suitable type of education for these boys.

SECONDARY SCHOOL PUPILS PROCEEDING TO  
AGRICULTURAL COLLEGES.

24. The pupils in secondary schools who intend to proceed to the Agricultural College might be divided into three groups:—

- (a) Those intending to go to the college for a maximum of practical work and a minimum of theoretical work;
- (b) Those intending to go to the college for diploma courses of various kinds;
- (c) Those intending to proceed to degrees and to take practical work at the college in conjunction with degree work at the University.

25. *Type A.*—For these students the ordinary secondary school course up to Junior Standard, with a prescribed General Science Course as a compulsory subject, should suffice; students might be permitted to pursue their secondary extension scholarships in Agricultural College. The granting of special scholarships for this purpose might also be suggested to the Government.

26. *Type B.*—This type should include those who desire to become managers of the various kinds (pastoral and agricultural) or who aspire to State employment as Agricultural Advisers, Crown Lands Rangers, Dairy Experts, Instructors, or Inspectors, Fruit Experts, Forestry Inspectors, Stock Inspectors, Meat Inspectors, etc.

27. The ordinary secondary school course up to Senior Standard should provide a suitable course of secondary education for these students, but the course should naturally have a trend to the science rather than the classical side.

28. For such students the granting of an adequate system of scholarships to the Agricultural College might also be suggested to the Government.

29. After securing their diplomas, it would be necessary that these students should gain practical experience before they could be regarded as fully qualified to undertake managerial or responsible State positions. In the filling of such positions, private employers, companies, and State Departments should be encouraged to give preference to suitable candidates who have received the training outlined.

30. *Type C.*—This type should include those who desire to become teachers of specialised subjects bearing upon the primary industries, and those who aspire to the higher professional appointments either in the State service or the services of the Colonial Sugar Refining Company, meat companies, etc.

31. Here also the ordinary secondary school course up to Senior Standard should provide a suitable course of secondary education for these students, provided that it has a bias to the Science side. After matriculation, these students could proceed direct to the University and undertake special courses according to their prospective occupations, or take a University-*cum*-Agricultural College Course.

32. It is apparent that a General Science Course suitable for the requirements of the primary industries has not yet been evolved. Such a general course should be prepared and a text-book on the subject should be compiled. The Senate might take the lead in this respect, have the course outlined by the Staff, and a text-book prepared by the Staff; the Staff to be paid for their special services, but the text-book to become the property of the Senate, and all receipts therefrom to be paid into the University revenue.

33. For the purposes of the scheme of higher Agricultural Education, the desirableness of associating certain members of the Staff of the Department of Agriculture with the Faculty of Science should be considered.

AGRICULTURAL COLLEGE.

34. In connection with the scheme of Agricultural Education, dealt with in this report, it would be necessary that the Agricultural College should be so organised as to provide for—

- (a) Short courses for those who are actually engaged in agricultural pursuits, who have never attended secondary schools or agricultural colleges, but who now desire a short course of specialised instruction in one or more subjects.
- (b) A suitable course for boys who have been educated up to Junior Standard and who desire to prepare for agricultural life.
- (c) A suitable course for boys who have completed the full secondary school course and who desire to obtain an agricultural diploma with a view to securing a position of responsibility in the State service or in private service.
- (d) A suitable course for boys who have completed the full secondary school course, have matriculated, and desire to secure a Degree in Agriculture with a view to qualifying for a position for which these qualifications are necessary.
- (e) A suitable course for students who have gained a degree in Science in the University but who desire to



secure practical agricultural knowledge and experience to warrant their receiving a Degree of Bachelor of Science in Agriculture.

35. To enable the foregoing work to be done, it would be necessary for the staff and equipment to be amplified so that the larger sphere of work could be overtaken; and it is believed that the College could be readily organised to provide for these courses if the requisite staff and equipment could be made available.

#### UNIVERSITY.

36. The late Chancellor, Sir William MacGregor, in his comprehensive memorandum of the 14th November, 1913, stated the case for the establishment of a Faculty of Agriculture in the University of Queensland.

37. Following the memorandum of Sir William MacGregor, the Department of Public Instruction, at the instance of the Government of the day, outlined for submission to the Senate a possible scheme for the establishment of a Department of Agriculture in the University. For various reasons, financial and otherwise, it has not been possible to proceed with the scheme or any modification thereof. The scheme was as follows:—

- (a) A Department of Agriculture to be established in the University under the Faculty of Science.
- (b) The Senate to make provision for the granting of a Degree of Bachelor of Science in Agriculture.
- (c) The Agricultural College at Gatton to be affiliated with the University under section 5 of "*The University of Queensland Act of 1909.*"

- (*d*) The Principal of the Gatton College to be placed in charge of the University Department of Agriculture and for University purposes to be given the title of Associate Professor.
- (*e*) The Associate Professor in Agriculture to be a member of the Board of Faculties and of the Faculty of Science.
- (*f*) The Principal to remain a State Officer and his salary to be paid by the Government so long as he retained the position of Principal of the Gatton College or until otherwise arranged.
- (*g*) When the University Department of Agriculture developed to such an extent as to warrant the establishment of a Faculty with a full-time Professor of Agriculture, the arrangement to be reconsidered.
- (*h*) As far as possible State Officers could be made available for University lecture purposes provided that the work does not trench unduly upon their State duties.
- (*i*) Salaries of special lecturers in the University Department of Agriculture and the allowances to part-time lecturers (State or otherwise) to be defrayed by the Government.
- (*j*) The Government institutions to be available for University research work in diseases of cattle, sheep, fruit, etc.
- (*k*) Gatton College to be made available for the practical work of University students in Agriculture and for such teaching work as might also be necessary.

- (l) In the framing of the University arrangements for the course in Agriculture, efforts to be made so that there should be continuous periods of work, alternately at the University and at the Agricultural College.

38. It was estimated that the cost of the scheme as outlined above would not exceed (exclusive of equipment)—

First year .. ..	£500
Second year .. ..	£1,000
Third year .. ..	£1,500
Fourth year .. ..	£2,000

39. Funds have not been placed at the disposal of the Senate to enable a Faculty of Agriculture to be established.

40. It is doubtful whether the time is yet opportune for the establishment of a full Faculty of Agriculture in the University, but as shown in the conclusions appearing later in this report, it is evident that early action might be taken in regard to the systematic organisation of Agricultural Education in the primary and secondary stages, and that pending the establishment of a Faculty of Agriculture the University could provide courses leading to a Degree of Bachelor of Science in Agriculture.

#### UNIVERSITY OF MELBOURNE.

41. In connection with the question of Agricultural Education in Queensland, it will be interesting and possibly helpful to state here that in December, 1916, the Council of the University of Melbourne appointed a Select Committee to consider the following points:—

- (1) The success achieved in the University teaching of Agriculture here and elsewhere in respect to the number of students who have availed

themselves of the course and have become (a) farmers, pastoralists, orchardists, etc.; (b) experts in the Department of Agriculture and elsewhere; (c) teachers of Agriculture. If the success in Australia in training such men has not been encouraging, what has been the cause of the non-success?

- (2) Whether a single degree course in Agriculture in Melbourne should be continued, or whether courses narrower in scope but more specialised and advanced in treatment (such as cereal culture) should be substituted for it in the future?
- (3) What type of training would best qualify students to become expert officers of the Agricultural Departments?

42. After exhaustive inquiry, the committee expressed the opinion that the School of Agriculture at the University of Melbourne has not attracted in recent years as large a number of students as might have been expected, mainly on account of the want of remunerative openings for graduates at the completion of their course, and that the school will continue to fail to attract students unless a career with a reasonable emolument is open to graduates in Agricultural Science.

43. With a view to placing this branch of University work on a better basis, the committee recommended—

- (1) That a general course in Agricultural Science is desirable, and that the graduates of such a course would be capable of rendering valuable service as experts in several Government Departments and elsewhere.

- (2) That the present course has not recently succeeded in attracting students, mainly owing to lack of encouragement and of remunerative employment for its graduates.
- (3) That the present course be modified as set out in the syllabus above.

This will entail the following:—

- (a) That Mr. A. E. V. Richardson, M.A., B.Sc., be appointed half-time Professor of Agriculture, and several other officers of the Agricultural Department as part-time lecturers in special subjects.
  - (b) That the farm work in the second year of the course be carried out at the Werribee State Research Farm instead of at Dookie College as at present.
  - (c) That a special building be erected at the University for Agricultural purposes at a cost of £1,500.
- (4) That the Government be asked—
    - (a) To provide a sum of £2,750 for immediate expenditure on buildings, etc., as set out in the report. This includes £1,500 mentioned in (3) (c) above.
    - (b) To provide an annual grant of £1,750 for salaries of professor and lecturers and for apparatus.
    - (c) To undertake to appoint annually, for the next five years at least, six graduates (under the conditions previously set out) in the Departments of Agriculture, Education, and (or) State Rivers and Water Supply.

44. It will be observed that the scheme which is now recommended by the Council of the Melbourne University is somewhat on the lines of the Queensland scheme of 1914.

AGRICULTURAL EDUCATION IN FRANCE.

45. The following extract from the "Nouvelles de France" dated the 26th July, 1917, is interesting and informative:—

"Among all the work of reconstruction and reorganisation which the French Parliament is carrying on in the midst of the war, one of the most interesting and important is the reorganisation of Agricultural Education.

"A Bill adopted by the Lower Chamber and now being considered by the Senate provides for professional agricultural instruction for a million young country lads and for a million girls living in the country.

"The scheme perfects and co-ordinates the previous provision for Agricultural Education. Existing institutions are respected and completed by different new institutions. Under this scheme, public instruction in agriculture for young people will be given:—

- (1) At the National Agricultural Institution founded under the Act of 1876 with modifications introduced by the new law. This is the Superior Normal School of Agriculture.
- (2) In the National Schools of Agriculture (Grignon, Montpellier, and Rennes) founded under the Act of 1848, with modifications introduced by the new law.

- (3) In Agricultural Schools comprising—
  - (a) Practical Schools instituted by the Act of 1875.
  - (b) Farming Schools under the Act of 1848.
  - (c) Technical Schools in which the teaching deals with some special form of Agricultural Science, Dairying, Horticulture, Viticulture, Drainage, Irrigation, Application of Machinery to Agriculture, etc., with the above modifications.
- (4) In Winter or other Seasonal Agricultural Schools.
- (5) In extension courses of Agricultural Instruction.

“Instruction in Agricultural Domestic Economy for girls is given—

- (1) In Higher Schools of Agricultural Domestic Economy. One of these schools includes a Superior Normal section for the training of teachers in all branches of Domestic Economy in connection with Agriculture.
- (2) In Agricultural Domestic Economy Schools—fixed, temporarily fixed, or travelling.
- (3) In extension classes for instruction in Agricultural Domestic Economy.

It will be readily seen that provision is thus made for real Agricultural Universities which will spread throughout the farming classes, and also throughout the whole nation, instruction in **Industrial and Scientific Agriculture.**”

## RECOMMENDATIONS.

The Committee, having given careful consideration to the general principles herein set forth, their applicability to the conditions obtaining in Queensland, and the possibilities which make the establishment of a sound system of Agricultural Education desirable and, indeed, necessary, desire to make the following recommendations:—

1. *Primary Schools.*—(a) That in the smaller schools specialisation in Agricultural Education should not be attempted, but that gardening and tree planting on a small scale should be encouraged.

(b) That in the larger schools, the Nature Study branch of the Primary School Syllabus should be followed; that tree planting, garden work, and vegetable growing should be encouraged; that the field work should be of the nature of observation work rather than experimental work; that extensive and laborious work should not be undertaken; that spasmodic work should be discouraged; that the issuing by the Education Department of suitable bulletins should be continued.

2. *Rural Schools.*—(a) That Rural Schools of the type recently established by the Education Department at Nambour should be established in other suitable localities.

(b) That "Rural School Scholarships," tenable for one year at Gatton Agricultural College, be granted to a certain number of approved candidates at Rural Schools. The course for these scholarship holders to be of a practical nature.

(c) That "Rural School Scholarships," tenable for one year at the Central Technical College, be also granted to a certain number of



approved scholars at Rural Schools, the courses for these scholarship holders to be so arranged as to give them elementary working knowledge of the principles of farming machinery, etc.

3. *Zillmere Agricultural School*.—That a suitable agricultural institution should be established by the Government on the site purchased for the purpose at Zillmere; but in order that—

- (a) Possible overlapping on the educational side with Gatton College may be avoided;
- (b) Close working relationship between the University and a suitable and convenient Agricultural College may be secured;
- (c) The visiting experts of the Department of Agriculture may have their students within easy reach;
- (d) The Agriculture and Education Departments may be in close touch with the principal agricultural college of the State;
- (e) Boys in the metropolis who desire to obtain an Agricultural Education may be able to live at home and attend the Agricultural College;
- (f) The institution may more easily be raised to the standard to warrant affiliation with the University.
- (g) The prevailing world-wide tendency to bring the higher Agricultural Colleges into close touch with the University and the large centres of population may be met;

the Government take into consideration the desirableness of transferring the educational side of the Gatton institution to Zillmere whilst re-

taining the Gatton institution for general practical agricultural purposes. The control of the Zillmere institution to be a matter for arrangement by the Government.

4. *Secondary Schools*.—(a) That boys who do not intend to remain at school after passing the Junior Examination, but intend to proceed to commercial positions bearing upon the primary industries, should be encouraged to sit for the proposed Commercial Junior Examination.

(b) That boys who have been educated up to Junior standard and who desire to follow agricultural pursuits should be encouraged to go to the Agricultural College to continue their education, provided that a suitable course, which shall contain a suitable blending of practical work and theoretical work, can be arranged.

(c) That boys who desire to gain the Agricultural Diploma so as to obtain positions as pastoral and agricultural managers, agricultural advisers, Crown lands rangers, etc., should be encouraged to reach the Senior Examination of the University before proceeding to the Agricultural College, and that the course taken by these boys in the Secondary Schools should have a trend to the Science side rather than the Classical side.

(d) That State High Schools in Agricultural Districts should be so staffed and equipped that a Manual course for boys and a Domestic Science course for girls will be available for those boys and girls who desire to take such courses, and who do not intend to take either the Junior or Senior Examinations.

(e) That winners of State Extension Scholarships who desire to avail themselves of the scholarships at the Agricultural College should be permitted to do so.

(f) That a suitable Agricultural Educational Institution should be established within such easy reach of Brisbane that prospective students who can, and desire to, live at home and attend the institution may be able to do so; that the proposed institution at Zillmere should be designed and organised for this purpose.

(g) That a suitable General Science Course be substituted for the existing separate courses in Science subjects in the Junior Public Examination.

(h) That a suitable text-book should be prepared for the purpose by the University Staff.

5. *Agricultural College.*—(a) That the scope of the Agricultural College should be so widened that it may—

- (i.) Continue to fulfil its present functions and the functions outlined in paragraph 34 hereof;
- (ii.) Satisfy such conditions as it may be necessary to prescribe in order to affiliate the institution with the University under section 5 of the University Act;
- (iii.) Admit of the establishment of Diploma Courses which would tend to produce the types of employers and employees mentioned in paragraph 22 (b) of this report; these courses would be taken by—
  - (1) Holders of State Secondary Extension Scholarships;
  - (2) Students who have completed the full Secondary School course of four years and have qualified for matriculation in the University;

- (3) University graduates in Science who desire to secure practical agricultural knowledge and experience to warrant their receiving their Degree of Bachelor of Science in Agriculture.

(b) That the curricula, teachers, and equipment in connection with the Diploma Courses should be subject to approval by the University, and the requirements of these courses should be such that they could be accepted by the University as fulfilling such practical and other work as may, together with a suitable degree course in Science covered previously or subsequently in the University, be regarded as sufficient to warrant the granting of a Degree of Bachelor of Science in Agriculture.

(c) That a limited number of Agricultural Scholarships to the University should be available for students who complete successfully the Diploma Course in Agriculture.

(d) That the holders of State Secondary Extension Scholarships who complete satisfactorily a Diploma Course at the Agricultural College should be accepted as matriculated students in the Faculty of Science without further examination.

6. *University.*—(a) That whilst it is recognised that funds are not available to enable a Faculty of, or a Department of, Agriculture to be established in the University, and whilst it is even doubtful whether such a Faculty or Department is fully warranted at the present time, seeing that the initial and preparatory stages and the stages leading directly to the University have not yet been developed, the Committee nevertheless is of opinion that the University should assist in every way possible in the organising and advancing of Agricultural Education,

and believes that if an agricultural college were organised as outlined in paragraph 5 hereof, it would be possible with little, if any, additional expense to the University—

- (i.) To establish a Department of Agriculture under the Faculty of Science and to make provision for the granting of a Degree of Bachelor of Science in Agriculture;
- (ii.) To utilise the present Science Courses, with suitable modifications or extensions, for the University work in Science to be covered by undergraduates in the Science Department of Agriculture.
- (iii.) To accept the Diploma Course work at the Agricultural College as covering the practical and other requirements; in addition to the work done in the University needed for the Degree of Bachelor of Science in Agriculture.

*7. Agricultural Research Scholarships.*—That Agricultural Research in the University should be encouraged and fostered—

- (i.) In regard to problems of national importance relating to the primary industries;
- (ii.) To keep the University in close touch with the Commonwealth Bureau of Science and Industry;
- (iii.) To form a means of co-operation between the State Agricultural Department and the University in regard to matters arising from time to time, which need expert scientific investigation;

- (iv.) To make the University a leading influence in matters of public and State concern and secure to the University the confidence of those engaged in primary industries and consequently their active support, financial and otherwise.

8. *General Course in Science.*—(a) That a general course in Science for the Junior Public Examination should be framed to supersede the individual courses in Science subjects in that examination; that a suitable text-book should be prepared for the purpose by the University Staff; that the Staff should be paid for their services; that the book should become the property of the Senate; and that the receipts from the sale of the book should be paid to the credit of the University.

(b) That when experience has been gained as to the suitability of a general course in Science for the Junior Public Examination, the question of extending the principle of a general course to the Senior Public Examination be taken into consideration.

9. *Employment.*—(a) That in filling cognate positions the Government, companies, and employers generally should be urged to give preference to suitably trained Queensland applicants and to pay salaries in keeping with the education and training of these men.

(b) That as the adequate development of the primary industries is dependent upon those engaged in the industries securing a fair and reasonable return for the expenditure of their capital and labour, and as our youth would be more inclined to enter upon those industries if there were reasonable prospects (apart from

seasonal uncertainties) of their earning a fair living thereby, it becomes apparent that the question of the financial return is closely allied to any scheme of Agricultural Education, and that the evolving by the responsible authority of a system whereby this reasonable financial return will be secured to the primary producers becomes more than ever a question of urgency and that the University, through its Department of Economics or otherwise, should render as much assistance as possible in this matter.

J. D. STORY,  
Chairman of Select Committee.

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- (5) Notes on a *Saprolegnia* epidemic amongst Queensland Fish. Proc. Roy. Soc. Queensland, 29 (11), 1917; pp. 125-131.
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**EDNA FLORENCE PEBERDY, B.Sc., Junior Demonstrator, 1917—**

- (1) The Anatomy of *Hyla carulea*—  
 (i.) The Pectoral Girdle and Vertebral Column. Proc. Roy. Soc. Queensland, 29, 1917; pp. 45-54. (With C. D. Gillies.)  
 (ii.) The Skull. Proc. Roy. Soc. Queensland, 29, 1917; pp. 117-122. (With C. D. Gillies.)

**GEOLOGY.****A. B. WALKOM, D.Sc., Assistant Lecturer in Geology and Mineralogy—**

- (1) Report on the *Pyroxene Granulites* collected by the British Antarctic Expedition, 1907-9. Reports on the Scientific Investigations, Geology, Vol. II., pp. 161-168. Plate I.  
 (2) Mesozoic Floras of Queensland, Part I. (continued). The Flora of the Ipswich and Walloon Series. (c) *Filicales*, &c. Queensland Geological Survey, Publication No. 257, 1917; pp. 1-46. Plates 1-10.  
 (3) Mesozoic Floras of Queensland, Part I. (concluded). (d) *Ginkgoales*, (e) *Cycadophyta*, (f) *Coniferales*. Queensland Geological Survey, Publication No. 259, 1917; pp. 1-30. Plates 1-9.

**HISTORY.****F. W. S. CUMBRAE-STEWART, B.A., B.C.L., Registrar of the University—**

- First Attempts at Settlement in New Guinea. Journal of the Historical Society of Queensland, Vol. 1, pp. 155-184.

**ENGINEERING.****R. W. H. HAWKEN, B.A., M.E., Acting Professor of Engineering—**

- (1) Maximum Positions of Moving Loads on Beams. Proceedings of the Institute of Local Government Engineers, 1917, Vol. 5, pp. 1-27 (with Diagrams).  
 (2) The Method of Two Origins for Deducing the Deflection of a Beam and the Equation of Three Moments. Proceedings of the Sydney University Engineering Society, Vol. xx., pp. 1-12 (with Diagrams).

- (3) A Practical Column Diagram with Proof. Proceedings of the Institution of Civil Engineers, 1917, Vol. ccciii., Paper No. 4207.
- (4) A Proposed Australian Institute of Civil Engineers. "Building," April and September, 1917, and "Australasian Engineer," 31st August, 1917.

P. L. WESTON, B.Sc., B.E., Lecturer in Electrical Engineering—

Notes on Magnetic Steel Band Drive. Proceedings of the Electrical Association of Australia, 1917.

The Commonwealth Engineer, Vol. 5, No. 1 (1st August, 1917), pp. 14-19.

Abstracted in the "Electrical Review," Vol. 81 (19th October, 1917), p. 383, and in "Science Abstracts," Section B, Vol. 20 (31st December, 1917), No. 240, paragraph 823, pp. 437-439.

#### CHEMISTRY.

L. S. BAGSTER, B.Sc., Lecturer in Applied Chemistry—

Compounds of Calcium Chloride and Acetone. Transactions of the Chemical Society, Vol. III., 1917, pp. 494-497.

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**RESIDENTIAL COLLEGES.****EMMANUEL COLLEGE.**

Emmanuel College was established to afford to Presbyterian and other Students of the University of Queensland resident and domestic supervision, a systematic religious instruction in accordance with the principles of the Presbyterian Church of Australia, and also efficient tutorial assistance in their preparation for the lectures and examinations of the University.

The College was incorporated by Letters Patent under the Seal of the State dated the seventh day of October, one thousand nine hundred and eleven, issued in pursuance of "*The Religious Educational and Charitable Institutions Act of 1861.*"

The Corporation consists of a Principal, who must be a member of the Presbyterian Church of Australia, holding and prepared to subscribe (when called upon to do so) the standards of that Church, and twelve Councillors of whom five, but not more, must be Ministers of the said Church. These twelve Councillors with the Principal form the Council in which the government of the College in every respect is vested.

**VISITOR :**

The Moderator of the State General Assembly.

**PRINCIPAL :**

The Rev. Richard Glaister, M.A., B.D.

**CHAIRMAN OF THE COUNCIL :**

William Alexander Morrow, M.A., LL.B.

COUNCILLORS :

James Allan  
The Rev. George Ewan  
Donald Fletcher  
The Rev. James Gibson, M.A.  
John Lockhart Gibson, M.D.  
Sir David Hardie, M.D.  
The Rev. Joseph Lundie, B.A.  
Thomas Macleod  
Alexander Mayes  
The Rev. E. N. Merrington, M.A., Ph.D.  
William Alexander Morrow, M.A., LL.B.  
The Rev. William Christopher Radcliffe, B.A.

RECORDER :

The Rev. William Christopher Radcliffe, B.A.

SOLICITOR :

John George McGregor.

TUTORS :

*In Physics:* W. E. W. Gray, B.Sc.\*  
*In Chemistry:* S. B. Watkins, B.A.  
*In Classics:* H. V. Byth, B.A.  
*In Mental and Moral Philosophy:* The Principal.  
*In English:* The Principal.  
*In French:* Charles Schindler, B.A., Queensland, Licentiate in  
Law, Paris.  
*In History:* Alun Davies, M.A.

IN RESIDENCE, 1918:

*Undergraduates.*

Barbour, R. R. P.                                  Kennedy, S. G.  
Davidson, J. F. E.

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\* On Active Service.

*Fees.*

The following fees shall be paid, namely:—

Registration fee (to be paid when a student's name is entered in the College Register)	.. .. .	One Guinea
Caution money	.. .. .	Two Guineas
Fee for Academic Year, including Examination week, payable in advance (or, per term, Eighteen Guineas)		Fifty-four Guineas
Fees for non-residents, per term	..	Three Guineas

The above fees are to be paid to the Recorder not later than the third week of each term. They cover all College charges for residence, commons, tuition, and library.

During vacations, and after the close of the Annual Examinations, the charge for residence and commons is £1 10s. per week, or 5s. a day.

With any fees paid later than the third week of a term, there shall be paid a further sum of equal to one shilling per day for each day during which after the expiration of such third week such fees remain unpaid, but the Council may at any time forego or refund such payment or any part thereof upon such conditions as they think fit.

No rebate will be made in case a student enters into residence after the beginning of the term or leaves before its close.

One term's notice must be given previous to the withdrawal of any student, otherwise a charge of £10 10s. will be made.

**ST. JOHN'S COLLEGE.**

This College is recognised as a Residential College for Undergraduates in the University of Queensland.

The College premises are situated at the corner of River Terrace and William Street, Kangaroo Point, exactly opposite the University, which can be reached by ferry in a few minutes.

The Services in the College are held in accordance with the formularies of the Church of England, and students are expected to attend unless there are special reasons to the contrary. The College is freely open to students of all creeds.

Students in residence desiring special tuition should see the Warden, who will arrange for it if possible.

The fees are £18 per term, payable in advance. Special arrangements will be made in the case of those desiring to continue in residence during the vacation. Washing, extra. All fees must be paid to the Warden not later than the third week in each term.

Prospectuses containing more detailed information may be had on application to the Warden.

## CHAIRMAN OF COUNCIL:

The Lord Archbishop of Brisbane.

## WARDEN:

The Rev. E. M. Baker, M.A., Keble College, Oxford.

## VICE-WARDEN:

The Rev. E. H. Strugnell, M.A., Trinity College, Cambridge.

## TUTORS, 1918:

*Non-Resident.*

The Rev. Canon Batty, M.A., Oxon.  
Miss Bourne, B.A., Sydney.

## IN RESIDENCE, 1918:

*Graduates.*

Marsden, Albert John, B.Sc.

Stanley, Edwin John Droughton, B.A.

*Undergraduates.*

Calder, Clifford Mason	Lanskey, Robert George
*Curwen-Walker, Ewan	Lecky, George William
Donaldson, Leslie James	McLean, Charles Robert
*Dunbar, Gordon Allan	*Paterson, Charles Raff
Duus, Earle Wright Jennsen	*Paterson, Frederick Woolnough
*Fryer, John Dennis	*Rankin, William Evelyn Dunsyryn
Hall, Thomas Mervyn Seyde	*Smith, Ernest Henry
Horsley, John Alan Talbot	Strover, Walter Henry
Houghton, Gordon Granville	Sundstrup, Arthur Henry

**KING'S COLLEGE.**

The College was recognised as a residential College for Undergraduates in the University on the 21st February, 1913, having been established by the Methodist Church of Queensland to afford Undergraduates residence near the University, together with moral and religious oversight, and tutorial assistance in preparation for University lectures and examinations.

It is situated, for the present, on River Terrace, Kangaroo Point, Brisbane.

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\*On Active Service.

The Council consists of a Master and thirty-four Councillors, in whom the government of the College is vested.

## MASTER:

Rev. L. E. Bennett, M.A. (Melb.), B.D. (London).

## FELLOWS:

Hon. E. W. H. Fowles, M.A., LL.B. (Ormond College, Melbourne).

J. J. Kingsbury, M.A. (Trinity College, Dublin).

G. H. C. Douglas, M.B., Ch.B. (Edinburgh).

A. J. Gibson, Ph.D. (Göttingen).

## TUTORS, 1915:

*Logic and Psychology*: The Master.

*Classics*: H. V. Byth, B.A. (Qd.).

*Chemistry and Physics*: H. McCulloch, B.Sc. (Qd.).

*English*: The Master.

*Mathematics*: Francis Cecil Thompson, B.A. (Qd.).

## SECRETARY:

Rev. R. Stewart, D.D.

## BURSAR:

Mr. W. Webb.

## GRADUATES:

Foggon, C. A., B.A.	Mursell, J. C., B.A.
*Brown, P. H., B.E.	Watkins, S. B., B.Sc.
Jones, A. H., B.A.	Holdaway, E. W. C., B.A.
Heiner, H. H., B.A.	Thatcher, T., B.A.
*Dinning, H. W., B.A.	*Robinson, J. A., B.A., D.S.O.
*O'Brien, O. W., B.A.	McCulloch, H., B.Sc.

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\* On Active Service.



## UNDERGRADUATES :

*Baldwin, D. E.	*Grimes, A. B.
*Bath, W. S.	Jenks, G.
Brown, S. G.	Johnson, H.
*Cribb, E. C.	Jones, I. F.
*Douglas, W. M.	*McCulloch, A.
*Francis, E.	Simpson, T.
Gee, E. G.	

*Non-matriculated.*

\*Small, F. T.

*External Students.*

\*Gee, Eric.

The College is open to members of all religious denominations, either as resident or non-resident students. All resident students shall either be matriculated or preparing for matriculation.

The College terms and vacations shall be the same as those of the University. Students wishing to remain in residence during vacation may do so by arrangement with the Master.

The College fees are as follows:—

*Resident Students.*—Fifty-four guineas for the Academical year, or eighteen guineas per University term. During vacations the charge will be £1 10s. per week or part of week.

The above fees cover all College charges for residence, tuition, commons, library, and lighting. Students, however, provide their own bed linen and towels, and must arrange for their own laundry work.

*Non-resident Students.*—Three guineas per term.

All fees must be paid to the College Bursar in three equal instalments not later than the third week of each term.

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\* On Active Service.

**THE WOMEN'S COLLEGE.**

This College was established in 1914 to afford to Women Students attending the University residence near the University together with domestic and moral supervision, and tutorial assistance in preparation for University lectures and examinations.

The College premises are situated, for the present, in Shafston road, Kangaroo Point.

The College is undenominational. Students are expected to attend prayers unless there are special reasons to the contrary.

All resident students shall be either matriculated or preparing for matriculation.

The College fees are as follow:—

*Resident Students* . . . Sixteen Guineas per term.

This fee covers all College dues for residence, tuition, commons, library, and lighting. Students provide for their own laundry work. During vacations, and after the close of the Annual Examinations, the charge will be £1 10s. for residence and commons per week, or part of week. One term's notice must be given previous to the withdrawal of any resident student, otherwise a term's fees will be charged.

*Non-resident Students* . . . Three Guineas per term.

All fees must be paid to the Women's College Account at the Bank of New South Wales, not later than the third week of each term.

Further information may be had on application to the Principal.

## VISITOR:

The Chancellor of the University.

## COUNCIL:

*President:* P. B. Macgregor, Esq., B.A. (Oxon.).

Mrs. J. S. P. Bourne                      Professor Steele (absent on leave)

Mrs. Brydon                                J. D. Story, Esq.

Miss Mackay                                The Principal (*ex officio*).

*Hon. Treasurer:* Mrs. Brydon.

*Secretary to the Council:* Miss Bage.

*Hon. Solicitor:* T. W. Green, Esq.

## PRINCIPAL:

Freda Bage, M.Sc. (Melb.), F.L.S.

## RESIDENT TUTOR AND COLLEGE SECRETARY:

Margaret G. Dawson, B.A.

## TUTORS, 1918:

*Biology:* The Principal.

*Classics:* Margaret G. Dawson.

*English:* Rev. E. H. Strugnell, M.A. (Trin. Coll. Camb.).

*French:* Dorothy Kate Denniss, B.A.

*German:*

*Logic and Psychology:* L. D. Edwards, B.A.

*Mathematics:* F. Ida Bourne, B.A. (Syd.).

## IN RESIDENCE, 1918:

*Graduate.*

Lockington, Dora Esther

*Undergraduates.*

Arundel, Margaret Effie Overell	Macfie, Jean Mascotte
Bee, Florence Rose	Macmillan, Mary Alexis
Binns, May	Mills, Alice Hughes
Cherry, Isabella Phyllis	Murray, Vida Ann
Easterby, Dora Emily	Ruddell, Thelma Mary
France, Dorothy	Scott, Annie Isobel Stenhouse
Gordon, Julia Annie	Scott, Rose McKenzie
Horton, Evelyn Whitney	Seaward, Margaret
Hughes, Gwen Delphine	Shaw, Lucy
Knott, Eva	Shipley, Elsie Marion Douglas
Lahey, Mavis Elizabeth Alicia	Smith, Ivy Lilian
Law, Ena	de Stokar, Nina

**ST. LEO'S COLLEGE.**

This College is recognised as a Residential College, incorporated with the University of Queensland and in connection with the Roman Catholic Church, in which Matriculated Students of the University may enjoy the advantages of residence, instruction in the doctrines of their Faith, and tuition supplementary to the lectures of the University Professors.

No Student can be admitted to the College unless he submits to its discipline and attends the Statutory lectures of the University.

The College premises are situated on Wickham Terrace.

The Rector and eight Councillors form the Council, in which the government of the College is vested.

## CHAIRMAN OF COUNCIL :

Most Rev. J. Duhig, D.D., Archbishop of Brisbane.

## RECTOR :

Rev. M. McKenna.

## TUTORS :

*Mathematics and Physics:* E. J. Burton, B.Sc.*Classics:* V. D. McCarthy, B.A.

## COUNCILLORS :

Rt. Rev. J. Shiel.

Hon. A. J. Thynne, M.L.C.

Rt. Rev. J. Heavey, D.D.

Hon. F. MacDonnell, M.L.C.

Rt. Rev. Mgr. J. Byrne, V.G.

J. J. Walsh, Esq., B.A.

Rt. Rev. Mgr. D. Fouhy, V.F.

## GRADUATES :

Breslin, F. L., B.Sc.

Graff, R., B.Sc.

*In Residence :*

Burton, E. J., B.Sc.

McCarthy, V. D., B.A.

## UNDERGRADUATES :

Barry, T. M.

O'Keeffe, R. J.

George, W. F.

O'Sullivan, W. W.

Herzig, B. A.

Ping, A. M.

Lee, J. J.

Vandaleur, M. A.

McKeon, M. L. D.

\*Watson, W. F.

The fees are fifteen guineas per term, payable in advance.

A Prospectus giving further information may be obtained on application to the Rector.

AN ALPHABETICAL LIST  
OF THE  
**GRADUATE AND UNDERGRADUATE MEMBERS OF  
THE UNIVERSITY.**

Adam, C. L.	[B.Sc., 1917.]	Barker, B. J.	[B.A., 1914.]
Adam, E. W.	[M.A., 1909.]	Barker, E. I.	
Adam, P.		Barlow, F. H.	
Adam, O.	[B.A., 1918.]	Barnes, J. A.	[B.A., 1916.]
Adams, J. B.		Barraclough, S. H.	[B.E., 1892.]
Adams, R. C.		Barry, T. M.	
Adamson, A. H.	[B.A., 1916.]	Bartlett, O. E. J.	
Adcock, D.		*Bath, W. S.	
Ahern, E. D.	[M.B., 1911.]	Batty, F. de W.	[M.A., 1905.]
Aitken, N. C.		Baxter, J. H.	
*Aland, R. C.		Beckman, G. H.	
Alcock, H.	[M.A., 1911.]	Bec, F. R.	
Aldridge, I.	[B.A., 1918.]	Beiers, H. A.	
Allan, M. M.	[B.A., 1917.]	Bell, G. S.	
Allen, G. C.		Bell, W.	[M.A., 1877.]
Allen, H.	[B.A., 1916.]	Bennett, F.	[B.Sc., 1916.]
Allpass, G. J.	[M.A., 1910.]	Bennett, L. E.	[M.A., 1909.]
Andrews, M. K.	[B.A., 1918.]	Bennett, N.	
Andrews, K. I.		*Benjamin, R.	
Anthony, P. A. W.		Bevington, A. P.	[B.A., 1914.]
Armanasco, J. A.		*Biggs, F. J.	
Arter, H. C.		Binns, M.	
Arthur, J.		Birkbeck, F. J.	
Arundel, M. E. O.		Black, F. M.	
Ashley, E. H.		Blakey, O. F.	
Atthow, W.		Blumberg, M. F. B.	
*Axon, A. E.		Bonar, J. M.	[B.A., 1915.]
		Bond, L. E.	
Backhouse, E. M.	[M.A., 1909.]	Bonham, P. H.	
Bage, A. F.	[M.Sc., 1906.]	Bonner, A. H.	
Bagster, L. S.	[B.Sc., 1908.]	*Boulton, G. O.	
Bailey, M. H.	[B.A., 1900.]	Bourne, E. E.	[M.B., 1903.]
Baird, H. E.	[B.A., 1914.]	Bourne, F. I.	[B.A., 1906.]
Baird, J.		Bousfield, F. S. N.	[M.A., 1880.]
Baker, E. M.	[M.A., 1900.]	Boyce, C. R.	
Bale, T. J.		Boyce, G. F.	
*Baldwin, D. E.		Bydle, H.	
Bancroft, M. J.	[B.Sc., 1918.]	†Boyle, R. A.	[B.Sc., 1916.]
Barbour, G. P.	[M.A., 1889.]	Brade, G. F.	[M.B., Ch.M., 1911.]
Barbour, R. R. P.		Bradfield, J. J. C.	[M.E., 1896.]
Barkell, P. K.	[B.A., 1913.]	Brazier, F. H.	
		Brennan, P. A.	

NOTE.—For other degrees held by Graduates, see page 229 and following pages.

\* On Active Service.

† Munitions Work in England.

Breslin, E. J.		Catchpole, I. V.	
Breslin, F. L.	[B.Sc., 1918.]	Cavenagh, W. T.	
*Briggs, J. L.	[B.A., 1914.]	Chamberlain, W. J.	
*Briggs, W.		Chard, J. P.	[B.A., 1914.]
Brightman, M. J. S.		Cherry, I. P.	
Broe, H.		*Cholmeley, R. J.	[B.A., 1894.]
Broe, J. J.		Christensen, N. H.	
Broe, J. M.		Church, M. M.	
Brown, A. E.	[B.A., 1917.]	Clarkson, V. C.	
Brown, G. D.	[B.E., 1918.]	Cleminson, H. F. L.	[M.Sc., 1916.]
*Brown, P. H.	[B.E., 1916.]	Cole, M.	
Brown, S. G.		Collings, T. F.	
*Bryan, W. H.	[M.Sc., 1916.]	Colvin, J.	
Bryce, Viscount.	[LL.D., 1912.]	Connolly, T. P.	[Ch.M., 1904.]
Bryce, W. R.		Conroy, A. W.	[B.E., 1917.]
Buchanan, C. P.	[B.A., 1899.]	Considine, F. J.	
Buchilly, A.		*Cooling, G.	[B.Sc., 1918.]
Buckley, D. R.		Cooper, Sir P. A.	[M.A., 1874.]
Bundock, C. W.	[B.A., 1878.]	Copas, A. M.	
Burgess, C. E.	[M.A., 1910.]	*Cornwall, H. M.	[B.E., 1917.]
Burgess, J. H.	[B.E., 1905.]	Cosh, J.	[B.A., 1891.]
Burton, E. J.	[B.Sc., 1918.]	Craig, E. F.	
Burton, G. M. J.		Craig, W. W.	[M.A., 1877.]
*Butler, A. G.	[M.B., 1899.]	Cran, S.	
Byrne, J. J.		*Crane, F. G.	
Byth, E. M.		Crawford, L. H. M.	
Byth, H. V.	[B.A., 1918.]	Crellin, S. Q.	[B.E., 1917.]
		*Cribb, E. C.	
Caine, E. J.		Cribb, E. M. B.	[M.A., 1901.]
Calder, C. M.		Cribb, L. B.	[B.A., 1918.]
Calford, E. R.		Cribb, J. G.	[M.A., 1893.]
Calford, L. A.		Croston, W.	
Cameron, A. P.	[B.A., 1894.]	Crouch, M. R.	
Cameron, D.	[M.A., 1863.]	Crowder, L. M.	
Cameron, D. A.	[Ch.M., 1901.]	Crowle, E. M. S.	
Cameron, J. A.	[M.B., 1892.]	*Cullen, E. B.	
Cameron, M. S.		Culligan, W. G.	
Cameron, W. E.	[B.A., 1893.]	Cumbræ-Stewart, F. W. S.	[B.A., 1887.]
Campbell, J. M.	[B.A., 1918.]	Cunningham, B.	
Campbell, K.		*Curwen-Walker, E.	
Carmody, M. J.		Curwen-Walker, M. C.	
Carne, A. E.		Cuthbert, H. J.	
Carraway, M. J.		Cuthbertson, M.	
Carson, T. J. K.	[B.A., 1902.]		
Carvosso, A. B.	[B.A., M.B., Ch.M., 1884.]	Dakin, I. A.	[B.A., 1890.]
		Dakin, J. E.	[B.A., 1913.]
Casey, J.		Daniels, M. L.	
*Cassidy, R. J.		*Dart, R. A.	[M.Sc., 1916.]
Castleman, A.	[M.A., 1906.]	†Darvall, A. E. J.	[B.A., 1914.]

\* On Active Service.

† Voluntary Aid Detachment, Red Cross, abroad.

- Dath, N.  
 Davidson, J. F. E.  
 Davies, A. [M.A., 1911.]  
 Dawson, M. G. [B.A., 1915.]  
 \*Day, W. C.  
 Deeney, J. C.  
 Denham, H. G. [D.Sc., 1909.]  
 Dennis, D. K. [B.A., 1916.]  
 Dennis, H.  
 Dennis, S. [B.E., 1909.]  
 Derrington, H. H.  
 Desmond, A. T. [B.A., 1913.]  
 Dewar, F. G.  
 \*Diamond, W. V.  
 Dignan, O. J. H. C. [B.A., 1916.]  
 \*Dinning, H. W. [B.A., 1914.]  
 Dixon, H. H. [M.A., 1909.]  
 Doak, W. J. [B.E., 1895.]  
 Dodds, A. S. [B.A., 1915.]  
 Dods, J. E. [M.B., 1897.]  
 Donaldson, St. C. G. A. [M.A., 1887.]  
 Donaldson, L. J.  
 Donoghue, J. P.  
 Doran, F. C. [B.A., 1916.]  
 \*Douglas, W. M.  
 Down, H. P.  
 Downie, C. J. [M.A., 1905.]  
 Dowrie, J. W.  
 Drain, D. S. A.  
 Drake, T. K.  
 Drape, O. M. [B.Sc., 1918.]  
 Drechsler, C. M. T.  
 Driver, E. E.  
 Duesbury, P. [B.A., 1908.]  
 \*Dunbar, G. A.  
 Duncombe, M. E. A.  
 Dunlop, E. J.  
 Dunlop, M. L. T. [M.A., 1909.]  
 Dunn, A. G.  
 \*Dunstan, F. W.  
 Duus, E. W. J.  
 Easterby, D. E.  
 Eaves, M. A. [B.A., 1917.]  
 \*Eckersley, P. C.  
 Eden, E. D.  
 Edmiston, E. S.  
 Edwards, E. E. [B.A., 1898.]  
 Edwards, L. D. [B.A., 1917.]  
 Eglinton, E. M.  
 Eldershaw, W. F. B. N. [M.A., 1911.]  
 Elliott, H. P. [M.B., Ch.M., 1894.]  
 England, C. I.  
 Entriiken, T. A. [B.A., 1918.]  
 \*Evans, C. K. [B.Sc., 1918.]  
 Fahey, B. [LL.B., 1904.]  
 Feez, A. H. H. M. [B.A., 1880.]  
 Fielding, A. S.  
 \*Fielding, F.  
 Fien, H. P. G.  
 Finn, E. T. [B.A., 1916.]  
 Fisher, E. M. [M.A., 1918.]  
 Fison, M. M.  
 Fittock, W. M. [B.A., 1916.]  
 Fitzgerald, E.  
 Fitzpatrick, E. V. [B.A., 1918.]  
 Fletcher, F. H. [B.A., 1917.]  
 Fletcher, G. I. [B.A., 1918.]  
 Fletcher, M. S. [M.A., 1902.]  
 Flint, A. C. [B.Sc., 1911.]  
 Flint, C. A. [M.A., 1884.]  
 \*Florence, J. N.  
 Flower, R. W.  
 Flynn, J. [M.D., 1915.]  
 Flynn, T. J.  
 Foggon, C. A. [B.A., 1914.]  
 Foggon, H. W. [B.A., 1917.]  
 Foote, F. L.  
 \*Foote, L. H.  
 Foran, J. L. F.  
 Forbes, L. A.  
 Forman, O. M. [B.A., 1917.]  
 Forrest, V. E. [B.A., 1917.]  
 Forrest, E.  
 Forster, B. T.  
 Foster, E.  
 Fowler, J. L. [B.A., 1917.]  
 †Fowler, W. M. B. [B.E., 1916.]  
 \*Fowles, D.  
 Fowles, E. W. H. [M.A., 1895.]  
 France, D.  
 \*Francis, E.  
 Francis, S.  
 \*Frankel, A. P.  
 Fraser, A. I. M.  
 Fraser, K. B.  
 Freshney, R. [M.B., Ch.M., 1892.]

\* On Active Service.

† Munitions Work in England.



Frew, A. E. H.	[B.E., 1908.]	Hall, J. M. S.	
Frew, H. P. G.		Hall, J. R. M.	
Frodsham, G. H.	[M.A., 1894.]	Halley, H. J.	
*Fryer, J. D.		Hamilton, D. C.	
Fulton, S. L.		Hamilton, H. M.	
		*Hamilton, R. C.	[B.A., 1913.]
Gall, L. W.		Hamlyn-Harris, R.	[D.Sc., 1902.]
Gallant, A. E.		Haney, R. E. J.	[D.Sc., 1909.]
Galway, V. E.		Hannan, V.	
Gant, T.	[M.A., 1883.]	Hangar, T.	[B.A., 1915.]
*Garland, D. J.		Hardgrove, A.	[B.A., 1915.]
Gasteen, H.		Hardie, Sir D.	[M.D., 1887.]
Gee, E. G.		†Hargreaves, G. W.	[M.Sc., 1916.]
*Gee, E. C. C.		Hargreaves, J. E. C.	
George, J.	[M.A., 1910.]	Harker, C. E.	[B.A., 1895.]
George, N. F.		Harrison, A. M.	[B.A., 1916.]
Geraghty, W. B.	[B.A., 1914.]	Harrison, C. H.	[B.A., 1917.]
Gibson, J.	[M.A., 1885.]	Harrison, I. W.	
Gibson, J. S.	[B.A., 1916.]	Harrison, L. W.	
Gibson, J. L.	[M.D., 1885.]	Harsant, K. M.	
Gibson, H. R.		Hartley, H. F.	
Gibson, K.		Harvey, R. M.	
Gilbert, J. A.	[B.A., 1917.]	Harvey, W. R.	
Gillespie, I. M.		Harwood, L. J.	[B.A., 1917.]
Gillies, C. D.	[M.Sc., 1916.]	Harwood, S. J.	
Glaister, R.	[M.A., 1885.]	Hassell, W. A.	
Gordon, J. A.		Havercroft, E.	
Graff, R.		Hawken, R. W. H.	[B.A., 1900.]
Graham, I. A. M.		Hawley, E. M.	
*Graham, M. D.		Hay, A.	[M.A., 1853.]
Graham, R. G.		Healion, J. F.	
Grant, G. F. P.		Heaton, J. H.	
*Grant, R.	[B.A., 1915.]	*Hein, R.	
Grant, R. W.	[M.A., 1911.]	Heiner, H. H.	[B.A., 1917.]
Green, H. H.	[M.A., 1908.]	Hellawell, F. H.	
Green, K. E.		*Henchman, H. H.	[M.A., 1898.]
Greenham, E. C.	[M.B., Ch.M., 1901.]	Henderson, D.	
		Henderson, N. V.	
Grenning, V.		Henry, J. J.	
Griffith, Sir S. W.	[LL.D., 1912.]	Henry, J. T.	
		Henzell, M. C. H.	
*Grimes, A. B.		Hermes, R. R. M., <i>see</i> McGirr,	
Gripp, W. R.		R. R. M.	
Groom, L. E.	[M.A., 1891.]	Hertzberg, M.	[B.A., 1906.]
Grove, F. T.	[B.A., 1902.]	Herzig, B. A.	
Grützmacher, F. L.		Hibbard, E.	[B.A., 1916.]
*Gunson, W. N.	[B.A., 1908.]	Higgins, K. A.	
Haines, V.	[B.Sc., 1917.]	Hirschfeld, E.	[M.D., 1889.]
Hale, H. P.	[M.A., 1897.]	Hirschfeld, O. S.	
Halford, A. C. F.	[M.D., 1898.]	Hirst, L.	

\* On Active Service.

† Munitions Work in England.

- \*Hirst, W.  
 Hitchcock, L. F.  
 Hobson, C. A. [B.Sc., 1916.]  
 Hodge, G. M. [M.A., 1911.]  
 Hodgens, C. E. [B.A., 1915.]  
 Hogan, T. R.  
 Holdaway, E. W. C. [B.A., 1917.]  
 \*Holtham, R. [B.A., 1916.]  
 Hooper, M. E.  
 Hooper, S. D. [B.A., 1914.]  
 \*Horn, A. [M.B., Ch.B., 1898.]  
 Horn, D. [M.B., Ch.B., 1898.]  
 \*Horn, H. W.  
 Horsley, J. A. T.  
 Horton, E. W.  
 Hoskin, A. C.  
 Houghton, G. G.  
 Hughes, C. F.  
 \*Hughes, F. G.  
 Hughes, G. D.  
 Hughes, J. M.  
 Hughes, T. F.  
 Hunt, F. E. [B.Sc., 1888.]  
 Hunter, T. B. [B.A., 1898.]  
 Hurwood, A. S.  
 \*Huxham, A. J.  
  
 Liff, E. A.  
 Inglis, T.  
 Irvine, C. R.  
 Irvine, R. S.  
 Irving, J. H.  
  
 \*Jackson, E. S. [M.B., Ch.B.,  
 1881.]  
 Jackson, R. J. [B.A., 1916.]  
 Jacobs, S.  
 Jaggard, A. M. M.  
 \*James, F. W. [B.Sc., 1916.]  
 James, G. [B.Sc., 1918.]  
 James, M. G.  
 James-Wallace, J. A.  
 Jarrett, M. K. [B.A., 1901.]  
 †Jefferis, A. T. [B.Sc., 1908.]  
 Jeffries, B. J.  
 Jenkins, H.  
 Jenkyn, C. H. H. [B.A., 1916.]  
 Jennings, F. A.  
 Jensen, C. [M.A., 1905.]  
 Jenks, G. H.  
  
 Johnson, H. W.  
 Johnston, J.  
 Johnston, T. H. [D.Sc., 1911.]  
 \*Jones, A. H. [B.A., 1915.]  
 \*Jones, C. H.  
 Jones, E. H.  
 Jones, E. W.  
 \*Jones, I. F.  
 Jones, M.  
 Jones, T. E. [B.A., 1884.]  
  
 Kaesehagen, C. A.  
 \*Keid, H. G. W.  
 Kellow, H. A. [M.A. 1905.]  
 \*Kelly, C. A.  
 Kennedy, D. V.  
 Kennedy, E. M.  
 \*Kennedy, E. W.  
 Kennedy, M. B.  
 Kennedy, S. G.  
 Kerlin, G. E.  
 Kerr, R. A. [M.A., 1901.]  
 Kersbergen, L. G.  
 Kidston, W. [LL.D., 1911.]  
 King, J. E.  
 Kingsbury, J. J. [M.A., 1887.]  
 Kingsbury, F. W.  
 Kingsmill, W. [B.A., 1883.]  
 Knapp, S. J.  
 Knott, E.  
 Körtum, L. A.  
 Krone, B. H. C. [B.A., 1900.]  
 \*Kyle, W. M.  
  
 Lahey, M. E. A.  
 Lahey, R. W. [B.E., 1914.]  
 Lahey, T. G. G.  
 Lamb, A. C.  
 Lane, C. T. [M.B., Ch.B., 1885.]  
 Lane, N. C. K. [B.Sc., 1914.]  
 Lanskey, R. G.  
 Larcombe, E. R. [B.A., 1892.]  
 †Latimer, R. W.  
 Law, N. A.  
 Law, E.  
 Lawrance, B. G. [M.A., 1898.]  
 Lecky, George William  
 Lee, I. A. [B. Sc. 1915.]  
 Lee, J. J.  
 Le Fanu, H. F. [M.A., 1900.]

\* On Active Service.

† Munitions Work in England.

Lehane, T. J.	[LL.B., 1903.]	*McIntyre, A. L.	[B.E., 1915.]
Lendrum, J. R.		McIntyre, D. F.	[B.A., 1918.]
Lenord, M. J.		McKenna, W. E.	
Leslie, W. S.		McKeon, M. L. de V.	
†Lewis, C. E.	[B.E., 1916.]	Mackey, I. J.	
Lewis, J. A.		MacKenzie, M. E.	[B.Sc., 1916.]
Lightoller, G. H. S.	[M.B.]	MacKillop, A. M.	[B.A., 1918.]
	Ch.M., 1906.]	MacMillan, M. A.	
Lilley, K.	[B.A., 1911.]	Maclean, M. A.	[B.A., 1916.]
Lindsay, J.		McLean, C. R.	
*Lloyd, N. A.	[B.E., 1915.]	McLean, G. A.	
Lockington, D. E.	[B.A., 1917.]	McLean, W.	
*Loney, E.		McNeil, F. D.	[B.E., 1909.]
Longbottom, C. M.		Macnish, L. I. F.	
Longworth, M. A.	[B.Sc., 1917.]	McWhinney, M.	[B.A. 1915.]
Lord, E. B.	[B.A., 1917.]	McWilliam, J. I.	
Lothian, E. I.	[M.A., 1908.]	McWilliam, R. J.	
Love, W. W. R.	[M.B., Ch.M., 1884.]	Manchester, D. A.	[B.Sc., 1917.]
Ludgate, H. B.		Manchester, E. J. T.	[M.E., 1896.]
Lukin, C. A.	[M.A., 1890.]	Marks, A. H.	[M.D., 1905.]
Lukin, F. W. R.		Marks, E. O.	[B.E., 1905.]
Lukin, L. G.	[B.A., 1918.]	Markwell, G. E.	[B.A., 1911.]
McCafferty, G. H.		Markwell, N. W.	[M.B., Ch.M., 1910.]
MacCallum, M. W.	[M.A., 1878.]	†Marsden, A. J.	[B.Sc., 1914.]
McCarthy, J. P.	[M.A., 1918.]	Marshall, G. G. L.	
McCarthy, V. D.	[B.A. 1918.]	Martin, H.	
McConnel, U. H.	[B.A., 1918.]	Martin, Z. E.	
Macrossan, H. D.	[B.A., 1902.]	Martyn, A. M.	[B.E., 1905.]
Macrossan, N. W.	[M.A., 1914.]	Mason, A. E.	
McCulloch, A.		Mason, E.	[B.A., 1914.]
McCulloch, H.	[B.Sc., 1918.]	Masterson, J.	
McCulloch, H. M.	[M.A., 1918.]	Matthews, I. L.	
McCulloch, M.	[B.A., 1915.]	Maxwell, R. A.	
McDermott, S.	[B.A., 1917.]	May, H. W.	[B.E., 1907.]
Macdonald, J. S.	[M.A., 1896.]	May, T. H.	[M.D., 1878.]
McDonnell, A. J.	[M.D., 1896.]	Mayo, G. E.	[B.A., 1911.]
MacDonnell, F. A.		Mehaffey, M. W.	[B.E., 1910.]
MacDonnell, M. E.	[B.A., 1916.]	*Mellor, R. W. H.	
MacDonnell, W. H. A.		*Merrington, E. N.	[M.A., 1903.]
McFadden, V. E. R.		Meyer, F. E.	[M.A., 1906.]
MacFarland, J. H.	[M.A., 1876.]	Meyer, W. J.	[B.A., 1914.]
Macfie, J. M.		Michel, W.	
Macfie, P. A.		Micheli, L. I. A.	
MacGinley, B.		Michie, J. L.	[M.A., 1911.]
McGirr, R. R. M.	[B.A., 1912.]	Micklem, P. A.	[M.A., 1902.]
MacGregor, Sir William	[LL.D., 1914.]	Midgley, R. J. D.	
McHugh, C. G.		Millar, S. J.	[B.E., 1915.]
Macintosh, E. D.		Mills, A. H.	
		Modrak, P.	[B.Sc., 1914.]

\* On Active Service.

† Munitions Work in England.

Moffat, E. W.		O'Hagan, J. D. J.	
Molesworth, B. H.	[M.A., 1917.]	O'Keefe, J. S.	
Monteith, H. E.		O'Keefe, C. D.	
*Moody, A. S. H.		O'Keefe, R. J.	
Moon, H. W.		Orr, A. W.	[M.D., 1890.]
Moore, A. J.	[B.A., 1918.]	Orr, R. S.	
Moorhouse, E. J.		Osborn, J. E. N.	[B.A., 1904.]
Moorhouse, P. W.	[B.A., 1914.]	O'Shaughnessy, P.	[B.A., 1916.]
Morgan, I. H.		O'Sullivan, D. B.	
Morgan, J. R. H.		*O'Sullivan, F. M.	
Morgan, T.		O'Sullivan, W. W.	
Morgan, T. H.	[M.D., 1896.]	Owen, D.	[M.A., 1884.]
Morison, M. W.	[B.Sc., 1910.]		
Morris, F. R.		Pace, A. F.	
Morris, J.	[B.A., 1917.]	Palfery, A. E.	
Morris, K. I.		Palmer, S. E.	[B.A., 1901.]
Morris, L. A.	[B.E., 1905.]	Pardoe, L. G.	
Morrison, A.	[B.E., 1908.]	Parkinson, K. A.	[B.A., 1910.]
Morrow, W. A.	[M.A., 1910.]	Parnell, H. F.	[M.A., 1912.]
Moss, O. G. S.		*Parnell, T.	[M.A., 1907.]
Mott, C. B.		*Partridge, E. H.	
Mottershead, A.	[B.Sc., 1916.]	*Paterson, C. R.	
Moyes, M. H.	[B.Sc., 1910.]	*Paterson, F. W.	
Moynihan, N. J.		*Paton, A. F.	
Muir, E. W.		Pattinson, J. A.	[M.A., 1888.]
Muir, H. C.		Payne, F. W.	[LL.B., 1883.]
Mueller, E. J.		Pearce, T. R.	[B.Sc., 1916.]
Munro, M. A. M.	[B.A., 1895.]	*Pearse, A. E. E.	[B.A., 1917.]
Murray, D. W.		Peberdy, E. F.	[B.Sc., 1917.]
Murray, V. A.		Pedersen, R. J.	
Mursell, J. L.		Peel, H. J.	[B.Sc., 1917.]
		Pennicuick, S. V.	
Naylor, H. D.	[M.A., 1894.]	Pennicuick, S. W.	
*Neilson, J. F.	[B.Sc., 1916.]	*Percy, R. A.	
Newman, G.		Peterson, A. M.	[B.A. 1918.]
Newman, K. I.	[B.A., 1894.]	Phelan, M. M.	[B.A., 1915.]
*Newton, G. O.		Philp, D. M.	[B.A., 1911.]
Nightingale, F. M.	[M.A., 1908.]	*Philp, R. S.	
Nolan, M. C.		Phipps, F. E.	[B.Sc., 1914.]
Nommensen, F. C.		Ping, A. M.	
Nommensen, J. W.	[B.A., 1915.]	Plant, H. F. N.	
*Norman, E. P.	[B.E., 1911.]	*Poon, H. R. G.	
Norris, A. M. C.	[B.A., 1909.]	Porter, A.	[M.B., 1904.]
North, E. G.		*Powe, A. B.	[B.A., 1914.]
North, F.	[B.A., 1907.]	Pratt, F. V.	[M.A., 1897.]
Nott, P. P. N.	[M.A., 1900.]	Preston, A.	[LL.B., 1911.]
Nowlan, J. G.	[B.A., 1910.]	Price, T. H.	[M.B., 1899.]
		Priest, H. J.	[B.A., 1904.]
*O'Brien, O. W.	[B.A., 1915.]	Priestley, H. J.	[M.A., 1909.]
O'Connor, M. M.			
O'Gorman, K. E.		†Quinn, R. G.	[B.Sc., 1916.]

\* On Active Service.

† Munitions Work in England.

*Radcliffe, J. N.	[B.A., 1915.]	Scott, G.	[B.A., 1891.]
Radcliffe, P. W.		Scott, R. M.	
Radcliffe, W. C.	[B.A., 1896.]	Scougall, S. S. H.	
Rahman, H. W.	[B.A., 1915.]	*Scriven, H. E. B.	[B.E., 1917.]
Ramsay, M. B.	[B.A., 1909.]	Seaward, M.	
*Rankin, W. E. D.		Shand, W. A. B.	[M.A., 1886.]
Ratray, M.		Shann, E. O. G.	[B.A., 1904.]
Real, E. T.	[LL.B., 1907.]	Shaw, L.	
Redmond, E. V.		Sheldon, A.	[M.A., 1918.]
Rees, B. O.		Shepherd, A.	
Reeves, E. E. V.	[B.A., 1916.]	*Sherman, T. L.	[B.E., 1917.]
*Reinhold, W. J.	[B.E., 1916.]	Shield, A.	
Rich, C. H.		Shield, C.	
Richards, H. C.	[M.Sc., 1909.]	Shield, I., <i>see</i> Weston, I.	
Ringrose, E. C. D.		Shipley, E. M. D.	
Roberts, A. J. S. C.	[M.B., 1905.]	Shirley, J.	[D.Sc., 1912.]
Roberts, J. L.		Simpson, T.	
Robertson, J.	[M.A., 1877.]	†Singleton, H. P.	[B.Sc., 1916.]
Robertson, W. N.	[M.B., Ch.M., 1892.]	Skvirsky, B. O.	
*Robinson, J. A.	[B.A., 1915.]	Smart, L.	
Robinson, S. F. H.	[M.A., 1892.]	*Smith, E. H.	
Robinson, S. L.		Smith, E. M.	
Robson, B. F.		Smith, F.	[B.Sc., 1903.]
Roe, M. A. S.		Smith, I. L.	
Roe, R. H.	[M.A., 1876.]	Smith, I. M.	[B.A., 1917.]
†Ross, C. N.	[B.E., 1915.]	Smith, L. A.	
*Row, A. W. L.		Smith, M. W.	[B.A., 1915.]
Rowell, E.		Smith, W. H.	[B.A., 1901.]
Rudd, A. W.	[M.A., 1904.]	Smyth, M. K.	[B.Sc., 1910.]
Ruddell, C. M.	[B.A., 1917.]	Spark, D. M. H.	
Ruddell, T. M.		‡Stable, J. J.	[M.A., 1909.]
Ruddy, R. J.		Stanley, E. J. D.	[B.A., 1916.]
Ryan, A.		Staunton, M. P.	
Ryan, T. J.	[B.A., 1899.]	Steedman, B. B.	[B.A., 1916.]
Ryan R.		†Steele, B. D.	[D.Sc., 1902.]
		Stephenson, S.	[M.A., 1893.]
		Sterne, I. R.	[B.Sc., 1917.]
		Stewart, H. J.	[M.D., 1907.]
Sachs, N. L.	[B.A., 1915.]	Stockler, J. M.	
Sachs, W. J.	[B.E., 1911.]	de Stokar, N.	
Salisbury, J. S.	[B.A., 1918.]	Strover, W. H.	
Salkeld, W. L. D.	[B.A., 1906.]	Strugnell, E. H.	[M.A., 1915.]
Sampson, R.		Stuart, S.	[M.D., 1879.]
Saunders, G. J.	[B.E., 1904.]	Stumm, E. D.	
*Saunders, R. R.		Sullivan, T. D.	
Schindler, C.	[M.A., 1918.]	Sully, H. J.	[B.A., 1917.]
*Schmidt, A. E.		Sumner, G. R.	
Scott, A. I. S.		Sundstrup, H. A.	
Scott, E. G.		Sutecliffe, C.	

\* On Active Service.

†Munitions Work in England.

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- †Swanwick, K. ff. [B.A., 1894.]  
 Swanwick, D. I.
- Talbot-Tubbs, H. A. [M.A. 1889.]  
 Thatcher, T. [B.A., 1917.]  
 \*Thelander, E. A.  
 Thompson, D. A.  
 Thompson, F. C. [B.A., 1917.]  
 Thompson, R. [Ch.B., M.D., 1890.]
- Thompson, R. W. J.  
 Thompson, W. [M.A., 1907.]  
 Thompson, W. J.  
 Thomson, J. M. [M.B., 1903.]  
 Thomson, W. C.  
 Thwaites, R. E. [M.A., 1903.]  
 Tiegs, O. W.  
 Tinniswood, M. [B.A., 1916.]  
 Tivey, J. P. [B.E., 1907.]
- Tommerup, H. G.  
 Townley, D. A. L.  
 Tozer, D. S. [LL.B., 1901.]  
 Trudgian, W. J.  
 Turner, A. J. [M.D., 1886.]  
 Tunley, L. W.  
 Tutin, S. B.
- Urquhart, M. M.  
 Uscinski, A. J.  
 Ulrich, H. F., *see* Parnell, H. F.
- Vance, G. W. [M.Sc., 1918.]  
 Vandaleur, M. A.  
 Viggers, W. A. [B.A., 1918.]
- Waddle, I. [M.Sc., 1917.]  
 Wagner, E. G.  
 †Wagner, J. G. [B.Sc., 1917.]  
 Walker, H. [B.E., 1903.]  
 Walker, J. [M.A., 1896.]  
 Walker, J. E. [LL.B., 1896.]  
 Walker, M. J. [B.Sc., 1917.]  
 Walker, S. H. [B.A., 1894.]  
 Walkom, A. B. [B.Sc., 1910.]  
 Walsh, J. J. [B.A., 1899.]  
 Ward, I. J.  
 Watkins, H. L. [B.A., 1907.]  
 †Watkins, S. B. [M.Sc., 1918.]  
 Watson, E. A. [B.A., 1911.]
- Watson, F. C. O.  
 Watson, W. F.  
 Wearne, R. A. [B. A., 1895.]  
 Webb, W. F.  
 Weise, G. E.  
 Wenck, E. A. F.  
 Wenck, T. B. J.  
 Weston, I.  
 Weston, P. L. [B.E., 1904.]  
 Wheatcroft, J. G. R. [M.A., 1874.]
- Wheatley, F. W. [B.Sc., 1890.]  
 Wheeler, J. A. [M.B., 1888.]  
 White, H. F. M. [M.A. 1889.]  
 White, R. E. J., *see* Haney.  
 Whittred, M.  
 Wiley, V. J.  
 Wilkie, L. [B.A., 1915.]  
 Wilkinson, E. M.  
 Wilkinson, N. L., *see* Sachs, N. L.  
 Williams, M. A. [B.A., 1900.]  
 \*Wilson, G. H.  
 Wilson, J.  
 Wilson, J. A. C. [B.A., 1915.]  
 Wilson, K. J. G.  
 Wilson, J. N.  
 Wilson, J. T. [M.B., 1883.]  
 Wilson, L. G.  
 Wilson, R. M. [B.E., 1915.]  
 Wilson, V. R.  
 \*Wilson, W. W.  
 Wishart, P. M. [B.A., 1917.]  
 Withecombe, H. H.  
 Witherby, T. C. [M.A., 1908.]  
 de Witt, E. V.  
 Wood, B. S. B.  
 Woolcock, J. L. [B.A., 1883.]  
 Woolnough, G. [M.A., 1873.]  
 Wright, D. M., *see* Fisher, D. M.  
 \*Wrigley, J. H. [B.E., 1917.]
- Yeates, V. B.  
 Youatt, H. G.  
 Young, A. E.  
 Young, C.
- Zerner, W. A.

\* On Active Service.

† Munitions Work in England.

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EXAMINATION PAPERS.

(a) PASS EXAMINATIONS, 1917.

(b) HONOURS EXAMINATIONS, 1918

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**EXAMINATION PAPERS.**

*The time allowed for each paper is three hours, unless otherwise stated.*

**ANNUAL EXAMINATIONS, 1917.****FACULTY OF ARTS.****Latin I.—Paper I.****1. Translate into Latin—**

Early in the morning of the twenty-seventh of July Dundee arrived at Blair Castle. There he learned that Mackay's troops were already in the ravine of Killicrankie. It was necessary to come to a prompt decision. A council of war was held. The Saxon officers were generally against hazarding a battle. The Celtic chiefs were of a different opinion. Glen-garry and Lochiel were now both of a mind. "Fight, my lord," said Lochiel, with his usual energy; "fight immediately; fight even if they greatly outnumber you. Our men are in heart. Their only fear is that the enemy should escape. Give them their way; and be assured that they will either perish or gain a complete victory. But if you restrain them; if you force them to remain on the defensive I answer for nothing. If we do not fight we had better break up and retire to our mountains."

**2. Translate into English—**

*"An Impious Leader."*

(a) Bello Punico secundo C. Flaminius consul neglexit signa rerum futurarum magna cum clade rei publicae. qui exercitu lustrato cum Arretium versus castra movisset et contra Hannibalem legiones duceret, et ipse et equus eius ante signum Iovis Statoris sine causa repente concidit, nec eam rem habuit religioni, obiecto signo, ut peritis videbatur, ne committeret proelium. idem cum tripudio auspicaretur, pullarius diem proelii committendi differebat. tum Flaminius ex eo quaesivit, si ne postea quidem pulli pascerentur, quid faciendum



censeret. cum ille quiescendum respondisset, Flaminius ‘ Praeclara vero auspicia’ inquit ‘ si esurientibus pullis res geri poterit, saturis nihil geretur.’ itaque signa convelli et se sequi iussit. quo tempore cum signifer primi hastati signum non posset movere loco, nec quicquam proficeretur, plures cum accederent, Flaminius re nuntiata suo more neglexit. Itaque tribus eis horis concisus exercitus atque ipse interfectus est.

- (b) “ *The poet takes leave of Rome—400 A.D.*”  
 Crebra relinquendis infigimus oscula portis :  
 inviti superant limina sacra pedes.  
 Oramus veniam lacrimis et laude litamus,  
 in quantum fletus currere verba sinit :  
 ‘ Exaudi, regina tui pulcherrima mundi,  
 inter sidereos Roma recepta polos,  
 exaudi, nutrix hominum genetrixque deorum  
 (non procul a caelo per tua templa sumus) :  
 te canimus semperque, sinent dum fata, canemus ;  
 hospes nemo potest immemor esse tui ;  
 obruerint citius scelerata obliviam solem,  
 quam tuus ex nostro corde recedat honos.  
 . . . . .  
 fecisti patriam diversis gentibus unam ;  
 profuit invitis te dominante capi ;  
 dumque offers victis proprii consortia iuris,  
 urbem fecisti, quod prius orbis erat.’

## GENERAL HISTORY AND LITERATURE.

Three questions to be answered.

1. Draw a sketch-map of Rome to show the following :—  
 Forum Romanum, Mons Palatinus, Mons Caelius, Circus  
 Flaminius, Agger, Subura, Pons Sublicius, Campus Martius,  
 Sacra Via, Ianiculum, Porta Capena.
2. Give some account of the configuration and climate of  
 Italy.
3. Compare or contrast Livy and Tacitus as historians.
4. “ The Aeneid is a literary epic.”  
 Comment on this.

5. In what essential respects did the Imperial system differ from the Republican ?
6. Write short notes on any two of the following :—  
Catullus, Statius, Lucretius, Seneca, Sallust, St. Augustine.
7. Trace the development of organization and tactics in the Roman army till the time of Julius Caesar.

**Latin I.—Paper II.**

*Vergil : Aeneid II.*

1. Translate and comment on—

- (a) extemplo temptanda fuga canit aequora Calchas ;  
nec posse Argolicis exscindi Pergama telis,  
omina ni repetant Argis, numenque reducant,  
quod pelago et curvis secum avexere carinis.  
et nunc, quod patrias vento petiere Mycenae,  
arma deosque parant comites, pelagoque remenso  
inprovisi aderunt. ita digerit omina Calchas.  
hanc pro Palladio moniti, pro numine laeso  
effigiem statuere, nefas quae triste piaret :  
hanc tamen immensam Calchas attollere molem  
roboribus textis, caeloque educere iussit.
- (b) at domus interior gemitu miseroque tumultu  
miscetur ; penitusque cavae plangoribus aedes  
femineis ululant ; ferit aurea sidera clamor.  
tum pavidae tectis matres ingentibus errant,  
amplexaeque tenent postes, atque oscula figunt.  
instat vi patria Pyrrhus ; nec claustra, neque ipsi  
custodes sufferre valent. labat ariete crebro  
ianua, et emoti procumbunt cardine postes.  
fit via vi : rumpunt aditus, primosque trucidant  
inmissi Danaei, et late loca milite complent.
- (c) hic mihi nescio quod trepido male numen amicum  
confusam eripuit mentem. namque avia cursu  
dum sequor, et nota excedo regione viarum,  
heu ! misero coniunx fatone erepta Creusa  
substitit ? erravitne via seu lassa resedit ?  
incertum ; nec post oculis est reddita nostris.

nec prius amissam respexi, animumve reflexi,  
 quam tumulum antiquae Cereris sedemque sacratam  
 venimus : hic demum collectis omnibus una  
 defuit, et comites natumque virumque fefellit.

2. Scan and mark anything noteworthy in the rhythm of the following lines :—

- (a) fertur in arva furens cumulo, camposque per omnes.
- (b) pressit humi nitens, trepidusque repente refugit.
- (c) involvens umbra magna terramque polumque
- (d) insontem infando indicio, quia bella vetabat
- (e) sic fatus validis ingentem viribus hastam  
 in latus inque feri curvam compagibus alvum  
 contorsit.

3. Give a brief account of the life and works of Vergil.

*Livy : Book XXII.*

Translate and comment on—

(a) Regio erat in primis Italiae fertilis, Etrusci campi, qui Faesulas inter Arretiumque iacent, frumenti ac pecoris et omnium copia rerum opulenti ; consul ferox ab consulatu priore et non modo legum aut patrum maiestatis, sed ne deorum quidem satis metuens ; hanc insitam ingenio eius temeritatem fortuna prospero civilibus bellicisque rebus successu aluerat.

(b) Maior aliquanto Romanorum gratia fuit in re pari, quam quanta futura Carthaginensium fuerat. Illos enim graves superbosque in rebus secundis expertos fortuna et timor mitigasse videri poterat ; Romanus primo adventu, incognitus ante, ab re clementi liberalique initium fecerat, et Abelux, vir prudens, haud frustra videbatur socios mutasse.

(c) Tum experta nobilitas, parum fuisse virium in competitoribus eius, L. Aemilium Paulum, qui cum M. Livio consul fuerat et damnatione collegae et sua prope ambustus evaserat, infestum plebei, diu ac multum recusantem ad petitionem compellit. Is proximo comitali die, concedentibus omnibus, qui cum Varrone certaverant, par magis in adversandum quam collega datur consuli.

(d) Sub equestris finem certaminis coorta est peditum pugna, primo et viribus et animis par, dum constabant ordines Gallis Hispanisque; tandem Romani, diu ac sæpe connisi, obliqua fronte acieque densa impulere hostium cuneum nimis tenuem eoque parum validum, a cetera prominentem acie. Impulsis deinde ac trepide referentibus pedem institere, ac tenore uno per praeceps pavore fugientium agmen in mediam primum aciem illati, postremo nullo resistente ad subsidia Afrorum pervenerunt, qui utrinque reductis alis constiterant, media, qua Galli Hispanique steterant, aliquantum prominente acie.

*Tacitus : Annals IV.*

1. Translate into English—

(a) Sub idem tempus de flamine Diali in locum Serui Maluginensis defuncti legendo, simul roganda noua lege disseruit Caesar. nam patricos confarreatis parentibus genitos tres simul nominari, ex quis unus legeretur, uetusto more; neque adesse, ut olim, eam copiam, ommissa confarreati aduetudine aut inter paucos retenta (pluresque eius rei causas adferrebat, potissimam penes incuriam uirorum feminarumque; accedere ipsius caerimoniae difficultates, quae consulto uitarentur) et quod exiret e iure patrio qui id flamonium apisceretur quaeque in manum flaminis conueniret.

(b) Nam cunctas nationes et urbes populus aut primores aut singuli regunt: delecta ex iis et consociata reipublicae forma laudari facilius quam euenire, uel si euenit, haud diuturna esse potest. igitur ut olim plebe ualida, uel cum patres pollerent, noscenda uulgi natura et quibus modis temperanter haberetur, senatusque et optimatum ingenia qui maxime perdidicerant, callidi temporum et sapientes credebantur, sic conuerso statu neque alia re Romana quam si unus imperitet, haec conquiri tradique in rem fuerit, quia pauci prudentia honesta ab deterioribus, utilia ab noxiis discernunt, plures aliorum euentis docentur. ceterum ut profutura, ita minimum oblectationis adferunt.

(c) At Caesar Capreas se in insulam abdidit, trium milium freto ab extremis Surrentini promunturii diiunctam. solitudinem eius placuisse maxime crediderim, quoniam importuosum circa mare et modicis nauigiis pauca subsidia; neque adpulerit quisquam nisi gnaro custode. caeli temperies

hieme mitis obiectu montis, quo saeva uentorum arcentur ;  
 aestas in Fauonium obuersa et aperto circum pelago peramoena ;  
 prospectabatque pulcherrimum sinum, antequam Vesuuus  
 mons ardescens faciem loci uerteret.

2. Give a short account of the life and character of Aelius  
 Sejanus ;

*Or—*

Explain what light is thrown by *Annals*, Book IV, upon  
 the administration of the *lex maiestatis* during the principate of  
 Tiberius.

**Latin II.**—Paper I.

*Vergil : Aeneid I, II.*

1. Translate and comment on—

- (a) Cui mater media sese tulit obvia silva,  
 Virginis os habitumque gerens et virginis arma,  
 Spartanae, vel qualis equos Threissa fatigat  
 Harpalyce volucrumque fuga praevertitur Hebrum.  
 Namque humeris de moreabilem suspenderit  
 arcum  
 Venatrix, dederatque comam diffundere ventis,  
 Nuda genu, nodoque sinus collecta fluentis.  
 Ac prior, Heus, inquit, iuvenes, monstrate, mearum  
 Vidistis si quam hic errantem forte sororum,  
 Succinctam pharetra et maculosae tegmine lyncis,  
 Aut spumantis apri cursum clamore prementem.
- (b) Nec tacui demens, et me, fors si qua tulisset,  
 Si patrios unquam remeassem victor ad Argos,  
 Promisi ultorem, et verbis odia aspera movi.  
 Hinc mihi prima mali labes, hinc spargere voces  
 Criminibus terrere novis, hinc spargere voces  
 In volgum ambiguas, et quaerere conscius arma.  
 Nec requieuit enim, donec Calchante ministro—  
 Sed quid ego haec autem nequiquam ingrata revolvo?  
 Quidve moror, si omnis uno ordine habetis Achivos,  
 Idque audire sat est ? Iamdudum sumite poenas ;  
 Hoc Ithacus velit, et magno mercentur Atridae.
- (c) Me si caelicolae voluissent ducere vitam,  
 Has mihi servassent sedes. Satis una superque  
 Vidimus exscidia et captae superavimus urbi.

Sic o, sic positum adfati discedite corpus.  
 Ipse manu mortem inveniam ; miserebitur hostis  
 Exuviasque petet ; facilis iactura sepulchri.  
 Iam pridem invisus divis et inutilis annos  
 Demoror, ex quo me divom pater atque hominum  
 rex  
 Fulminis adflavit ventis et contigit igni.

2. "The literary epic is composed, in an age of advanced civilization, by a learned poet."

Consider the Aeneid as a literary epic.

Or—

Why is the Second Book regarded as one of the great books of the Aeneid ? In your answer refer to particular passages.

*Cicero : Pro Cornelio Sulla.*

1. Translate and comment on—

(a) Quae enim fuit Autroni caussa ? Quae Sullae est ? Ille ambitus iudicium tollere ac disturbare primum conflato voluit gladiatorum ac fugitivorum tumultu, deinde, id quod vidimus omnes, lapidatione atque concursatione : Sulla, si sibi suus pudor ac dignitas non prodesset, nullum auxilium requisivit. Ille damnatus ita se gerebat non solum consiliis et sermonibus, verum etiam aspectu atque voltu, ut inimicus esse amplissimis ordinibus, infestus bonis omnibus, hostis patriae videretur: hic se ita fractum illa calamitate atque adflicto putavit, ut nihil sibi ex pristina dignitate superesse arbitraretur, nisi quod modestia retinisset.

(b) Ab Allobrogibus nominatum Sullam esse dicis. Quis negat ? Sed lege indicium et vide, quemadmodum nominatus sit. L. Cassium dixerunt commemorasse, cum ceteris Autronium secum facere. Quaero, num Sullam dixerit Cassius ? Nusquam.

(c) At vero in illa gravi L. Sullae turbulentaque victoria quis P. Sulla mitior, [quis misericordior inventus est] ? Quam multorum hic vitam est a L. Sulla deprecatus ! Quam multi sunt summi homines et ornatissimi et nostri et equestris ordinis, quorum pro salute se hic Sullae obligavit !

(d) Vestrae sunt iam partes, iudices; in vestra mansuetudine atque humanitate causam totam repono. Vos reiectione interposita nihil suspicantibus nobis repentini in nos iudices conseditis, ab accusatoribus delecti ad spem acerbitatis, a fortuna nobis ad praesidium innocentiae constituti.

2. Give a brief account of each of the following:—Rogatio Caecilia, P. Sittius, lex Plautia de vi, M. Porcius Laeca, ius imaginum, P. Cornelius Lentulus Sura.

*Quintilian, Book X.*

1. Translate and comment on—

(a) Narrare vero quis brevius quam qui mortem nuntiat Patrocli, quis significantius potest quam qui Curetum Aetolorumque proelium exponit? Iam similitudines, amplificationes, exempla, digressus, signa rerum et argumenta ceteraque genera probandi ac refutandi sunt ita multa ut etiam qui de artibus scripserunt plurima earum rerum testimonia ab hoc poeta petant. Nam epilogus quidem quis umquam poterit illis Priami rogantis Achillen precibus aequari? Quid? In verbis, sententiis, figuris, dispositione totius operis nonne humani ingenii modum excedit? ut magni sit virtutes eius non aemulatione, quod fieri non potest, sed intellectu sequi.

(b) Multum ingenii in CAELIO et praecipue in accusando multa urbanitas, dignusque vir, cui et mens melior et vita longior contigisset. Inveni qui CALVUM praeferrent omnibus, inveni qui Ciceroni crederent eum nimia contra se calumnia verum sanguinem perdidisse; sed est et sancta et gravis oratio et castigata et frequenter vehemens quoque. Imitator autem est Atticorum, fecitque illi properata mors iniuriam, si quid adiecturus sibi non si quid detracturus fuit.

(c) Vertere Graeca in Latinum veteres nostri oratores optimum iudicabant. Id se L. Crassus in illis Ciceronis de Oratore libris dicit factitasse; id Cicero sua ipse persona frequentissime praecipit, quin etiam libros Platonis atque Xenophontis edidit hoc genere translatos; id Messallae placuit, multaeque sunt ab eo scriptae ad hunc modum orationes, adeo ut etiam cum illa Hyperidis pro Phryne difficillima Romanis subtilitate contenderet.

## 2. Comment on the following :—

- (a) Marcus Tullius in hoc opere (philosophia) Platonis aemulus extitit.  
 (b) eodem animo dixisse quo bellavit.  
 (c) Lucanus magis oratoribus quam poetis imitandus.  
 (d) Velles eum suo ingenio dixisse, alieno iudicio.

**Latin II.—Paper II.**

## 1. Translate into Latin—

The Persian generals were astonished and alarmed by the rapidity of Belisarius, and reflected with anxiety on the consequence of a defeat at such a distance from their frontiers, to which not a single fugitive might escape to tell the melancholy tale. A victory, on the other hand, would by no means be equally decisive, since Belisarius might then collect his broken forces within the ramparts of Chalcis or of Antioch, and firmly stand siege till succours should arrive. Moved by these considerations, and disheartened by their overthrow at Dara, they determined to abandon their enterprise, and to retrace their steps. They accordingly marched back to the Euphrates, and were followed by Belisarius who made no attempt to harass or overtake them. He perceived that a battle could hardly increase, but might easily forfeit, the advantages bestowed by their voluntary flight, and therefore avoided giving them any opportunity for an engagement.

## 2. Translate into English—

*“An Evil Environment.”*

(a) At nunc natus infans delegatur Graeculae alicui ancillae, cui adiungitur unus aut alter ex omnibus servis, plerumque vilissimus nec cuiquam serio ministerio adcommodatus. horum fabulis et erroribus virides statim et rudes animi imbuuntur; nec quisquam in tota domo pensi habet quid coram infante domino aut dicat aut faciat. quin etiam ipsi parentes non prohibitati neque modestiae parvulos adsuefaciunt, sed lasciviae et dicacitati, per quae paulatim impudentia inrepat et sui alienique contemptus. iam vero propria et peculiaris huius urbis vitia paene in utero matris concipi mihi videntur, histrionalis favor et gladiatorum equorumque studia: quibus occupatus et obsessus animus quantum loci



bonis artibus relinquit? quotum quemque invenies qui domi quicquam aliud loquatur? quos alios adolescentulorum sermones excipimus, si quando auditoria intravimus? ne praeceptores quidem ulla crebriores cum auditoribus suis fabulas habent; colligunt enim discipulos non severitate disciplinae nec ingenii experimento, sed ambitione salutationum et inlecebris adulationis.

- (b) Quicumque ille fuit, puerum qui pinxit Amorem,  
 nonne putas miras hunc habuisse manus?  
 Hic primum vidit sine sensu vivere amantes,  
 et levibus curis magna perire bona.  
 Idem non frustra ventosas addidit alas,  
 fecit et humano corde volare deum;  
 Scilicet alterna quoniam iactamur in unda,  
 nostraque non ullis permanet aura locis.  
 Et merito hamatis manus est armata sagittis,  
 et pharetra ex umero Gnosia utroque iacet;  
 ante ferit quoniam, tuti quam cernimus hostem,  
 nec quisquam ex illo vulnere sanus abit.  
 In me tela manent, manet et puerilis imago,  
 sed certe pinnas perdidit ille suas;  
 evolat heu nostro quoniam de pectore nusquam,  
 adsiduusque meo sanguine bella gerit.  
 Qui tibi iucundum est siccis habitare medullis?  
 I, puer, en alio traice tela tua.

**Not necessary for Pass.**

- (c) " *Insomnia.* "  
 Crimine quo merui, iuvenis placidissime divom,  
 quove errore miser, donis ut solus egerem,  
 Somne, tuis? Tacet omne pecus volucresque teraeque,  
 et simulant fessos curvata cacumina somnos,  
 nec trucibus fluviis idem sonus, occidit horror  
 aequoris, et terris maria adclinata quiescunt.  
 Septima iam rediens Phoebe mihi respicit aegras  
 stare genas, totidem Oetae Paphiaequae revisunt  
 lampades, et totiens nostros Tithonia questus  
 praeterit et gelido spargit miserata flagello.  
 Somne veni! Nec te totas infundere pennas  
 luminibus compello meis—hoc turba precatur  
 laetior—extremo me tange cacumine virgae,  
 sufficit, aut leviter suspenso poplite transi.

## Greek I.—Paper I.

*Prometheus Vincetus.*

## 1. Translate and comment on—

- (a) τὰ μὲν σ' ἐπαινῶ κούδαμῃ λήξω ποτέ·  
 προθυμίας γὰρ οὐδὲν ἐλλείπεις. ἀτὰρ  
 μηδὲν πόνει· μάτην γὰρ οὐδὲν ὠφελῶν  
 ἐμοὶ πονήσεις, εἴ τι καὶ πονεῖν θέλεις.  
 ἀλλ' ἠσύχαζε σαυτὸν ἐκποδῶν ἔχων·  
 ἐγὼ γὰρ οὐκ, εἰ δυστυχῶ, τοῦδ' εἵνεκα  
 θέλοισ' ἂν ὡς πλείστοισι πημονὰς τυχεῖν.  
 οὐ δῆτ', ἐπεὶ με καὶ κασιγνήτου τύχαι  
 τεύρουσ' Ἄτλαντος, ὃς πρὸς ἑσπέρους τόπους  
 ἔστηκε κίον' οὐρανοῦ τε καὶ χθονὸς  
 ὤμοις ἐρείδων, ἄχθος οὐκ εὐάγκαλον.
- (b) φέρε πῶς ἄχαρις χάρις, ὦ φίλος, εἶπέ ποῦ τίς ἀλλὰ,  
 τίς ἐφαμερίων ἄρηξις; οὐδ' ἐδέρχθης  
 ὀλιγοδρανίαν ἄκικυν,  
 ἰσόνειρον, ἧ τὸ φωτῶν  
 ἀλαὸν γένος ἐμπεποδισμένον; οὐποτε — —  
 τὰν Διὸς ἁρμονίαν θνατῶν παρεξίασι βουλαί.  
 ἔμαθον τάδε σὰς προσιδούσ' ὀλοὰς τύχας, Προμηθεῦ.  
 τὸ διαμφίδιον δέ μοι μέλος προσέπτα  
 τόδ' ἐκεῖνό θ' ὄ τ' ἀμφὶ λουτρά  
 καὶ λέχος σὸν ὑμεναίου  
 ἰότατι γάμων, ὅτε τὰν ὀμοπάτριον ἔδνοις  
 ἄγαγες Ἑσιόναν πιθῶν δάμαρτα κοινόλεκτρον.
- (c) *ΙΩ.* ἦ γὰρ ποτ' ἔστιν ἐκπεσεῖν ἀρχῆς Δία;  
*ΠΡ.* ἦδοι' ἂν, οἶμαι, τήνδ' ἰδοῦσα συμφορὰν.  
*ΙΩ.* πῶς δ' οὐκ ἂν, ἦτις ἐκ Διὸς πάσχω κακῶς;  
*ΠΡ.* ὡς τοίνυν ὄντων τῶνδε μανθάνειν πάρα.  
*ΙΩ.* πρὸς τοῦ τύραννα σκῆπτρα συληθήσεται;  
*ΠΡ.* πρὸς αὐτὸς αὐτοῦ κενοφρόνων βουλευμάτων.  
*ΙΩ.* ποίω τρόπῳ; σήμηνον, εἰ μὴ τις βλάβῃ.  
*ΠΡ.* γαμεῖ γάμον τοιοῦτον ᾧ ποτ' ἀσχαλᾷ.

(d) ἔμοι δέ γ' ὅτε μὲν ὀμαλὸς ὁ γάμος,  
 ἄφοβος οὐδὲ δέδια,  
 μηδὲ κρεισσόνων θεῶν  
 ἔρωσ ἀφυκτον ὄμμα προσδράκοι με.  
 ἀπόλεμος ὄδε γ' ὁ πόλεμος, ἄπορα πόριμος·  
 οὐδ' ἔχω τίς ἄν γενοίμαν·  
 τὰν Διὸς γὰρ οὐχ ὀρώ  
 μῆτιν ὄπα φύγοιμ' ἄν.

2. Discuss the place of the Prometheus Vincetus in the Prometheus trilogy.

*Homer: Iliad IX.*

1. Translate and comment on—

- (a) ἀλλ' ἦ τοι νῦν μὲν πειθώμεθα νυκτὶ μελαίνῃ  
 δόρπα τ' ἐφοπλισόμεσθα· φυλακτῆρες δὲ ἕκαστοι  
 λεξάσθων παρὰ τάφρον ὀρυκτῆν τείχεος ἐκτός.  
 κούροισιν μὲν ταῦτ' ἐπιτέλλομαι· αὐτὰρ ἔπειτα,  
 Ἄτρεΐδη, σὺ μὲν ἄρχε· σὺ γὰρ βασιλεύτατός ἐσσι.  
 δαίνυ δαῖτα γέρουσιν· ἔοικέ τοι, οὗ τοι ἀεικές.  
 πλείαι τοι οἴνου κλισίαι, τὸν νῆες Ἀχαιῶν  
 ἡμάτιαι Θρήκηθεν ἐπ' εὐρέα πόντον ἄγουσι·  
 παῖσά τοι ἐσθ' ὑποδεξίῃ, πολέεσσι δ' ἀνάσσεις.
- (b) ἔκ γὰρ δὴ μ' ἀπάτησε καὶ ἤλιπεν· οὐδ' ἂν ἔτ' αὖτις  
 ἐξαπάφοιτ' ἐπέεσσιν· ἄλις δέ οἱ· ἀλλὰ ἔκηλος  
 ἐρρέτω· ἐκ γὰρ εὖ φρένας εἴλετο μητίετα Ζεὺς.  
 ἐχθρὰ δέ μοι τοῦ δῶρα, τίω δέ μιν ἐν καρὸς αἴσῃ.  
 οὐδ' εἴ μοι δεκάκις τε καὶ εἰκοσάκις τόσα δοίῃ  
 ὅσσα τέ οἱ νῦν ἔστι, καὶ εἴ ποθεν ἄλλα γένοιτο,  
 οὐδ' ὄσ' ἐς Ὀρχομενὸν ποτινίσσεται, οὐδ' ὅσα Θῆβας  
 Αἴγυπτίας, ὅθι πλείστα δόμοις ἐν κτήματα κείται,  
 αἶθ' ἑκατόμυλοι εἰσι, διηκόσιοι δ' ἂν ἑκάστας  
 ἀνέρες ἐξοιχνεῦσι σὺν ἵπποισιν καὶ ὄχεσφιν·

(c) τῶν δὲ τάχ' ἀμφὶ πύλας ὄμαδος καὶ δοῦπος ὀρώρει  
 πύργων βαλλομένων· τὸν δὲ λίσσοντο γέροντες  
 Αἰτωλῶν, πέμπον δὲ θεῶν ἱερέας ἀρίστους,  
 ἐξελεῖν καὶ ἀμῦναι, ὑποσχόμενοι μέγα δῶρον·  
 ὅπποθι πῖοτατον πεδίον Καλυδῶνος ἔρανης,  
 ἔνθα μιν ἦνωγον τέμενος περικαλλές ἐλέσθαι  
 πεντηκοντόγυον, τὸ μὲν ἦμισυ οἰνοπέδιοιο,  
 ἦμισυ δὲ ψιλὴν ἄροσιν πεδίοιο ταμέσθαι.  
 πολλὰ δὲ μιν λιτάνευε γέρων ἱππηλάτα Οἰνεὺς  
 οὐδοῦ ἐπεμβεβαῶς ὑψηρεφέος θαλάμοιο,  
 σείων κολλητὰς σανίδας, γουνούμενος υἷόν.

2. Give a brief account of what is known of the early Aegean civilization. Discuss the relation of the Homeric poems to this civilization.

*Demosthenes: Philippic I. and Olymthiacs.*

1. Translate and comment on—

(a) καίτοι τί δήποτ' ὦ ἄνδρες Ἀθηναῖοι νομίζετε τὴν μὲν τῶν Παναθηναίων ἑορτὴν καὶ τὴν τῶν Διονυσίων αἰεὶ τοῦ καθήκοντος χρόνου γίνεσθαι, ἂν τε δεινοὶ λάχωσιν ἂν τ' ἰδιῶται [οἱ] τούτων ἑκατέρων ἐπιμελησόμενοι, εἰς ἃ τοσαῦτ' ἀναλίσκεται χρήματα, ὅσ' οὐδ' εἰς ἓνα τῶν ἀποστόλων, καὶ τοσοῦτον ὄχλον καὶ παρασκευὴν ὅσην οὐκ οἶδ' εἴ τι τῶν ἀπάντων ἔχει, τοὺς δ' ἀποστόλους πάντας ὑμῖν ὑστερίζειν τῶν καιρῶν, τὸν εἰς Μεθώνην, τὸν εἰς Παγασάς, τὸν εἰς Ποτειδαιαν;

(b) Καὶ περὶ μὲν τῆς βοηθείας ταῦτα γινώσκω· περὶ δὲ χρημάτων πόρου, ἔστιν ὦ ἄνδρες Ἀθηναῖοι χρήμαθ' ὑμῖν, ἔστιν ὅσ' οὐδενὶ τῶν ἄλλων ἀνθρώπων [στρατιωτικά]· ταῦτα δ' ὑμεῖς οὕτως ὡς βούλεσθε λαμβάνετε. εἰ μὲν οὖν ταῦτα τοῖς στρατευομένοις ἀποδώσετε, οὐδενὸς ὑμῖν προσδεῖ πόρου, εἰ δὲ μή, προσδεῖ, μᾶλλον δ' ἅπαντος ἐνδεῖ τοῦ πόρου. “τί οὖν;” ἂν τις εἴπῃ, “σὺ γράφεις ταῦτ' εἶναι στρατιωτικά;” μὰ Δί' οὐκ ἔγωγε.

(c) πρότερον μὲν γὰρ ὧ ἄνδρες Ἀθηναῖοι κατὰ συμμορίας εἰσεφέρετε, νυνὶ δὲ πολιτεύεσθε κατὰ συμμορίας. ῥήτωρ ἡγεμῶν ἑκατέρων καὶ στρατηγὸς ὑπὸ τούτῳ καὶ οἱ βοησόμενοι τριακόσιοι· οἱ δ' ἄλλοι προσενέμησθε, οἱ μὲν ὡς τούτους, οἱ δ' ὡς ἐκείνους.

(d) ἐκείνοι τοίνυν, οἷς οὐκ ἐχαρίζονθ' οἱ λέγοντες οὐδ' ἐφίλουν αὐτοὺς ὥσπερ ὑμᾶς οἱτοὶ νῦν, πέντε μὲν καὶ τετταράκοντ' ἔτη τῶν Ἑλλήνων ἦρξαν ἐκόντων πλείω δ' ἢ μύρια τέσσαρα εἰς τὴν ἀκρόπολιν ἀνήγαγον, ὑπήκουεν δ' ὁ ταύτην τὴν χώραν ἔχων αὐτοῖς βασιλεύς, ὥσπερ ἐστὶ προσήκον βάρβαρον Ἑλλησι, πολλὰ δὲ καὶ καλὰ καὶ πεζῆ καὶ ναυμαχοῦντες ἔστησαν τρόπαι' αὐτοῖ στρατευόμενοι, μόνοι δ' ἀνθρώπων κρείττω τὴν ἐπὶ τοῖς ἔργοις δόξαν τῶν φθονούντων κατέλιπον.

2. Describe briefly the general situation in the Greek world at the time when Demosthenes delivered the First Philippic (spring of 351 B.C.). What were the proposals put forward by the orator in this speech?

### Greek I.—Paper II.

#### PROSE COMPOSITION AND TRANSLATION AT SIGHT.

##### 1. Translate—

##### (a) *Country before Friends.*

Ἀμύχανον δὲ παντὸς ἀνδρὸς ἐκμαθεῖν  
 ψυχὴν τε καὶ φρόνημα καὶ γνώμην, πρὶν ἂν  
 ἀρχαῖς τε καὶ νόμοισιν ἐντριβῆς φανῆ.  
 ἐμοὶ γὰρ ὅστις πᾶσαν εὐθύνων πόλιν  
 μὴ τῶν ἀρίστων ἄπτεται βουλευμάτων,  
 ἀλλ' ἐκ φόβου τοῦ γλώσσαν ἐγκλήσας ἔχει,  
 κάκιστος εἶναι νῦν τε καὶ πάλαι δοκεῖ·  
 καὶ μείζον' ὅστις ἀντὶ τῆς αὐτοῦ πάτρας  
 φίλον νομίζει, τοῦτον οὐδαμοῦ λέγω.  
 ἐγὼ γάρ, ἴστω Ζεὺς ὁ πάνθ' ὀρώων ἀεὶ,  
 οὔτ' ἂν σιωπήσαιμι τὴν ἄτην ὀρώων

στείχουσαν ἀστοῖς ἀντὶ τῆς σωτηρίας,  
 οὐτ' ἂν φίλον ποτ' ἄνδρα δυσμενῆ χθονὸς  
 θείμην ἑμαυτῷ, τοῦτο γιγνώσκων ὅτι  
 ἦδ' ἔστιν ἡ σώζουσα καὶ ταύτης ἔπι  
 πλέοντες ὀρθῆς τοὺς φίλους ποιούμεθα.  
 τοιοῖσδ' ἐγὼ νόμοισι τήνδ' αὔξω πόλιν.

Sophocles: *Antigone*, 175.

(b) *The Patriotism of Agesilaus.*

Ὡς γε μὴν φιλόπολις ἦν καθ' ἑν μὲν ἕκαστον  
 μακρὸν ἂν εἴη γράφειν· οἴομαι γὰρ οὐδὲν εἶναι τῶν πεπραγ-  
 μένων αὐτῷ ὅ, τι οὐκ εἰς τοῦτο συντείνει. ὡς δ' ἐν βραχεῖ  
 εἰπεῖν, ἅπαντες ἐπιστάμεθα ὅτι Ἀγησίλαος, ὅπου ᾤετο τὴν  
 πατρίδα τι ὠφελήσειν, οὐ πόνων ὑφίετο, οὐ κινδύνων ἀφίστατο,  
 οὐ χρημάτων ἐφείδετο, οὐ σῶμα, οὐ γῆρας προὔφασίζετο, ἀλλὰ  
 καὶ βασιλέως ἀγαθοῦ τοῦτο ἔργον ἐνόμιζε τὸ τοὺς ἀρχομένους  
 ὡς πλεῖστα ἀγαθὰ ποιεῖν. ἐν τοῖς μεγίστοις δὲ ὠφελήμασι τῆς  
 πατρίδος καὶ τότε ἐγὼ τίθημι αὐτοῦ, ὅτι δυνατώτατος ὢν ἐν  
 τῇ πόλει φανερός ἦν μάλιστα τοῖς νόμοις λατρεύων. τίς γὰρ  
 ἂν ἠθέλησεν ἀπειθεῖν ὄρων τὸν βασιλέα πειθόμενον; τίς δ' ἂν  
 ἠγούμενος μειουεκτεῖν νεώτερόν τι ἐπεχείρησε ποιεῖν εἰδὼς τὸν  
 βασιλέα νομίμως καὶ τὸ κρατεῖσθαι φέροντα; ὅς καὶ πρὸς τοὺς  
 διαφόρους ἐν τῇ πόλει ὡσπερ πατὴρ πρὸς παῖδας προσεφέρετο.

Xenophon: *Agesilaus*, 7.

2. Translate into Greek—

Immediately after this Pericles, being at the time one of the generals, went with three colleagues to recover Euboea which had revolted from Athens; but before sailing to attack the island he urged the Athenians not to grudge either money or men in so important an enterprise. He told them that Euboea was capable of a protracted resistance, and warned them that no matter what reverses the arms of Athens might experience, they must continue the war, and that whoever should advise them to permit the independence of Euboea must be regarded as a traitor and sentenced to death. "For if Thebes," said he, "in a future war should take possession of this island and block up the Euripus, she would inflict on us

such damage that we should with difficulty recover from it. If we are defeated in this expedition, she will perhaps declare war and help the Euboeans, especially as she has a ready ally in Sparta. But give me fifty galleys and 5,000<sup>1)</sup> men, and Euboea shall fall before Sparta can come to her assistance."

**Greek II.**—Paper I.

*Aeschylus: Agamemnon.*

**I. Translate and comment on—**

- (a) οὐδ' ὅστις πάροιθεν ἦν μέγας,  
 παμμάχῳ θράσει βρύων,  
 οὐδὲ λέξεται πρὶν ὦν·  
 ὅς δ' ἔπειτ' ἔφυ, τρια—  
 κτῆρος οἴχεται τυχῶν.  
 Ζῆνα δέ τις προφρόνως  
 ἐπινίκια κλάζων  
 τεύξεται φρενῶν τὸ πᾶν·  
 τὸν φρονεῖν βροτοὺς ὀδώ—  
 σαντα, τὸν πάθει μάθος  
 θέντα κυρίως ἔχειν.  
 στάζει δ' ἐν θ' ὕπνω πρὸ καρδίας  
 μνησιπήμων πόνος· καὶ παρ' ἄ—  
 κοντας ἦλθε σωφρονεῖν.  
 δαιμόνων δέ που χάρις βίαιος  
 σέλμα σεμνὸν ἡμένων.
- (b) λιποῦσα δ' ἀστοῖσιν ἀπίστοράς  
 τε καὶ κλόρους λογχίμους  
 ναυβάτας <θ'> δπλισμούς,  
 ἄγουσά τ' ἀντίφερνον Ἰλίῳ φθοράν  
 βέβακεν ρίμφα διὰ πυλᾶν  
 ἄτλητα τλᾶσα· πολλὰ δ' ἔστενον  
 τόδ' ἐννέποντες δόμων προφήται·  
 ἰὼ ἰὼ δῶμα δῶμα καὶ πρόμοι,  
 ἰὼ λέχος καὶ στίβοι φιλόνορες.  
 † πάρεστι σιγᾶς ἄτιμος ἀλοῖδορος  
 ἄδιστος ἀφεμένων ἰδεῖν.†

(So MSS.)

- (c) *πρῶτον μὲν Ἄργος καὶ θεοὺς ἐγγωρίους  
δίκη προσειπεῖν, τοὺς ἔμοι μεταίτιους  
νόστοῦ δικαίων θ' ὦν ἐπραξάμην πόλιν  
Πριάμου· δίκας γὰρ οὐκ ἀπὸ γλώσσης θεοὶ  
κλύοντες ἀνδροθνήτας Ἰλίου φθορὰς  
εἰς αἵματηρὸν τεῦχος οὐ διχορρόπως  
ψήφους ἔθεντο· τῷ δ' ἐναντίω κύτει  
ἐλπὶς προσήει χειρὸς οὐ πληρουμένω.  
καπνῷ δ' ἀλοῦσα νῦν ἔτ' εὖσημος πόλις.*
- (d) *νεῶν δ' ἔπαρχος Ἰλίου τ' ἀναστάτης  
οὐκ οἶδεν οἷα γλῶσσα μισητῆς κυνὸς  
λέξασα καὶ κτείναςα φαιδρόνους δίκην  
ἄτης λαθραίου τεύξεται κακῇ τύχῃ. (So MSS.)*
- (e) *μεγαλόμητις εἶ, περίφρονα δ' ἔλακες,  
ὥσπερ οὖν φονολιβεῖ τύχα φρῆν ἐπιμαίνεται·  
λίβος ἐπ' ὀμμάτων αἵματος ἐμπρέπει·  
ἀπίετον ἔτι σὲ χρῆ στερομέναν φίλων  
τύμμα τύμματι τίσαι.*

2. Discuss Aeschylus' conception of the character of Clytaemnestra.

*Demosthenes: De Corona.*

1. Translate and comment on—

(a) *ἀλλ' ὅμως, τούτων τοιούτων ὄντων καὶ ἐπ' αὐτῆς τῆς  
ἀληθείας οὕτω δεικνυμένων, εἰς τοῦθ' ἦκεν ἀναιδείας ὥστ'  
ἐτόλμα λέγειν ὡς ἄρ' ἐγὼ πρὸς τῷ τῆς εἰρήνης αἴτιος  
γεγενῆσθαι καὶ κεκωλυκῶς εἶην τὴν πόλιν μετὰ κοινοῦ  
συνεδρίου τῶν Ἑλλήνων ταύτην ποιήσασθαι.*

(b) *ὁ γὰρ τότε ἐνστάς πόλεμος ἄνευ τοῦ καλῆν δόξαν  
ἐνεγκεῖν ἐν πᾶσι τοῖς κατὰ τὸν βίον ἀφθονωτέροις καὶ  
εὐωνοτέροις διήγεν ὑμᾶς τῆς νῦν εἰρήνης, ἣν οὗτοι κατὰ τῆς  
πατρίδος τηροῦσιν οἱ χρηστοὶ ἐπὶ ταῖς μελλούσαις ἐλπίσιν, ὧν  
διαμάρτοιεν, καὶ μετᾶσχοιεν ὧν ὑμεῖς οἱ τὰ βέλτιστα βουλό-  
μενοι τοὺς θεοὺς αἰτεῖτε, μὴ μεταδοῖεν ὑμῖν ὧν αὐτοὶ  
προήρηνται.*

Some MSS.: *μηδὲ μεταδοῖεν.*



(c) ὡς δὲ τὸ τῆς πόλεως ἀξίωμα λαβὼν ἀφίκετ' εἰς τοὺς Ἀμφικτύονας, πάντα τᾶλλ' ἀφείς καὶ παριδὼν ἐπέβαινε ἐφ' οἷς ἐμισθώθη, καὶ λόγους εὐπροσώπους καὶ μύθους, ὅθεν ἡ Κιρραία χώρα καθιερώθη, συνθεῖς καὶ διεξελθὼν ἀνθρώπους ἀπείρους λόγων καὶ τὸ μέλλον οὐ προορωμένους, τοὺς ἱερομνήμονας, πείθει ψηφίσασθαι περιελθεῖν τὴν χώραν ἣν οἱ μὲν Ἀμφισσεῖς σφῶν αὐτῶν οὖσαν γεωργεῖν ἔφασαν, οὗτος δὲ τῆς ἱερᾶς χώρας ἡγιάτ' εἶναι, οὐδεμίαν δίκην τῶν Λοκρῶν ἐπαγόντων ἡμῖν, οὐδ' ἂ νῦν οὗτος προφασίζεται λέγων οὐκ ἀληθῆ.

(d) δίς τε συμπαραταξάμενοι τὰς πρώτας, τὴν τ' ἐπὶ τοῦ ποταμοῦ καὶ τὴν χειμερινήν, οὐκ ἀμέμπτους μόνον ὑμᾶς αὐτοὺς ἀλλὰ καὶ θαυμαστοὺς ἐδείξατε τῷ κόσμῳ, ταῖς παρασκευαῖς, τῇ προθυμίᾳ.

2. Write notes on the following phrases:—*Εὐρυβάτου πρᾶγμα, ἐν τοῖν δυοῖν ὀβολοῖν ἐθεώρουν ἄν, ἡ Μυσῶν λεία, βοηδρομιώνος ἔνη καὶ νέα, γαμηλιώνος ἕκτη ἀπόντος, τὸ πέμπτον μέρος τῶν ψήφων, ἡ βακτηρία καὶ τὸ σύμβολον, ἔαν ἐν ὑπωμοσίᾳ.*

*Thucydides, Book VII.*

1. Translate and comment on—

(a) οἱ δὲ θεράποντες, ἐπειδὴ ἐς ἀντίπαλα καθεστήκαμεν, αὐτομολοῦσι, καὶ οἱ ξένοι οἱ μὲν ἀναγκαστοὶ ἐσβάντες εὐθὺς κατὰ τὰς πόλεις ἀποχωροῦσιν, οἱ δὲ ὑπὸ μεγάλου μισθοῦ τὸ πρῶτον ἐπαρθέντες καὶ οἰόμενοι χρηματιεῖσθαι μᾶλλον ἢ μαχεῖσθαι, ἐπειδὴ παρὰ γνώμην ναυτικόν τε δὴ καὶ τᾶλλα ἀπὸ τῶν πολεμίων ἀνθεστῶτα ὀρώσιν, οἱ μὲν ἐπ' αὐτομολίας προφάσει ἀπέρχονται, οἱ δὲ ὡς ἕκαστοι δύνανται.

(b) τὴν γὰρ ἀνάκρουσιν οὐκ ἔσεσθαι τοῖς Ἀθηναίοις ἐξωθουμένοις ἄλλοσε ἢ ἐς τὴν γῆν, καὶ ταύτην δι' ὀλίγου καὶ ἐς ὀλίγον, κατ' αὐτὸ τὸ στρατόπεδον τὸ ἑαυτῶν· τοῦ δ' ἄλλου λιμένος αὐτοὶ κρατήσιν, καὶ ξυμφερομένους αὐτούς, ἣν πη βιάζωνται, ἐς ὀλίγον τε καὶ πάντας ἐς τὸ αὐτό, προσπίπτοντας

ἀλλήλοις παράξεσθαι· ὅπερ καὶ ἔβλαπτε μάλιστα τοὺς Ἀθηναίους ἐν ἀπάσαις ταῖς ναυμαχίαις, οὐκ οὔσης αὐτοῖς ἐς πάντα τὸν λιμένα τῆς ἀνακρούσεως, ὥσπερ τοῖς Συρακοσίοις· περιπλεῦσαι δὲ ἐς τὴν εὐρυχωρίαν, σφῶν ἐχόντων τὴν ἐπίπλευσιν ἀπὸ τοῦ πελάγους τε καὶ ἀνάκρουσιν, οὐ δυνήσεσθαι αὐτούς.

(c) Ἄμα δὲ τῇ ἔω ἀφικνοῦνται ὁμῶς πρὸς τὴν θάλασσαν, καὶ ἐσβάντες ἐς τὴν ὁδὸν τὴν Ἐλωρινὴν καλουμένην ἐπορεύοντο, ὅπως, ἐπειδὴ γένοιτο ἐπὶ τῷ ποταμῷ τῷ Κακυπάρει, παρὰ τὸν ποταμὸν ἴοιεν ἄνω διὰ μεσογείας· ἤλπιζον γὰρ καὶ τοὺς Σικελοὺς ταύτη οὖς μετέπεμψαν ἀπαντήσεσθαι. ἐπειδὴ δ' ἐγένοντο ἐπὶ τῷ ποταμῷ, ἠῖρον καὶ ἐνταῦθα φυλακὴν τινα τῶν Συρακοσίων ἀποτειχίζουσάν τε καὶ ἀποσταυροῦσαν τὸν πόρον.

2. Give an account of Athenian relations with Sicily and the West previous to the Sicilian expedition ;

Or—

Estimate the importance of Thucydides in the development of historical writing.

## Greek II.—Paper II.

### PROSE COMPOSITION.

TIME ALLOWED—TWO HOURS.

Translate—

It seemed probable that some man of authority had suggested or at least countenanced this rebellion of the natives, and suspicion fell upon the captive chief Challeuchima, who was accused of maintaining a secret correspondence with the enemy. Pizarro waited on the Indian noble, and charging him with the conspiracy, reproached him with ingratitude towards the Spaniards who had dealt with him so liberally. He concluded by the assurance that, if he did not cause the Peruvians to lay down their arms and tender their submission at once, he should be burnt alive so soon as they reached Almagro's camp. The Indian chief listened to the terrible menace with the utmost composure. He denied having had any

communication with his countrymen, and said that in his present state of confinement, at least, he could have no power to bring them to submission. He then remained doggedly silent, and Pizarro did not press the matter further. But he placed a stronger guard over his prisoner, and caused him to be put in irons. When they reached Almagro's camp the Indian was placed on trial and promptly condemned. We are not informed of the nature of the evidence, but it is not incredible that he should have secretly encouraged a movement designed to secure his country's freedom and his own.

### Greek II.—Paper III.

#### TRANSLATION AT SIGHT.

#### TIME ALLOWED—TWO HOURS.

Translate—

(a)

*Hector to Andromache.*

Ἐὖ γὰρ ἐγὼ τόδε οἶδα κατὰ φρένα καὶ κατὰ θυμό·  
 ἔσσεται ἡμᾶρ ὅτ' ἂν ποτ' ὀλώλῃ Ἴλιος ἱρὴ  
 καὶ Πριάμος καὶ λαὸς εὐμμελίῳ Πριάμοιο.  
 ἀλλ' οὐ μοι Τρώων τόσσον μέλει ἄλγος ὀπίσσω,  
 οὐτ' αὐτῆς Ἐκάβης, οὔτε Πριάμοιο ἄνακτος,  
 οὔτε κασιγνήτων, οἳ κεν πολέες τε καὶ ἐσθλοὶ  
 ἐν κονίῃσι πέσοιεν ὑπ' ἀνδράσι δυσμενέεσσιν,  
 ὅσσοι σέυ, ὅτε κέν τις Ἀχαιῶν χαλκοχιτώνων  
 δακρυέεσσαν ἄγῃται, ἐλεύθερον ἡμᾶρ ἀπούρας·  
 καὶ κεν ἐν Ἀργεὶ ἐοῦσα, πρὸς ἄλλης ἱστὸν ὑφαίνοις,  
 καὶ κεν ὕδωρ φορέοις Μεσσηϊδος ἢ Ὑπερείης  
 πόλλ' ἀεκαζομένη, κρατερὴ δ' ἐπικείσεται ἀνάγκη·  
 καὶ ποτέ τις εἶπησιν, ἰδὼν κατὰ δάκρυ χέουσαν  
 Ἔκτορος ἦδε γυνή, ὃς ἀριστεύεσκε μάχεσθαι  
 Τρώων ἵπποδάμων, ὅτε Ἴλιον ἀμφεμάχοντο.  
 ὡς ποτέ τις ἐρέει· σοὶ δ' αὖ νέον ἔσσεται ἄλγος  
 χήτει τοιοῦδ' ἀνδρὸς ἀμύνειν δούλιον ἡμᾶρ.  
 ἀλλὰ με τεθνηῶτα χυτὴ κατὰ γαῖα καλύπτου,  
 πρὶν γ' ἔτι σῆς τε βοῆς σοῦ θ' ἑλκθημοῖο πυθέσθαι.

*Iliad vi, 447.*

(b) *An oligarchical movement in Samos.*

Ἄλλα καὶ ἐν τῇ Σάμῳ ξυνέβη τοιαύδε γενέσθαι ὑπ' αὐτὸν τὸν χρόνον τοῦτον ὅνπερ οἱ τετρακόσιοι ξυνίσταντο. οἱ γὰρ πρότερον τῶν Σαμίων ἐπαναστάντες τοῖς δυνατοῖς καὶ ὄντες δῆμος, μεταβαλλόμενοι αὐθις καὶ πεισθέντες ὑπὸ τε τοῦ Πεισάνδρου, ὅτ' ἦλθε, καὶ τῶν ἐν τῇ Σάμῳ ξυνεστῶτων Ἀθηναίων, ἐγένοντό τε ἐς τριακοσίους ξυνωμόται καὶ ἔμελλον τοῖς ἄλλοις ὡς δῆμῳ ὄντι ἐπιθήσεσθαι. καὶ Ὑπέρβολόν τέ τινα τῶν Ἀθηναίων, μοχθηρὸν ἄνθρωπον ὡστρακισμένον οὐ διὰ δυνάμεως καὶ ἀξιώματος φόβον ἀλλὰ διὰ πονηρίαν καὶ αἰσχύνῃ τῆς πόλεως, ἀποκτείνουσι μετὰ Χαρμίνου τε, ἐνὸς τῶν στρατηγῶν, καὶ τινων τῶν παρὰ σφίσιν Ἀθηναίων, πίστιν διδόντες αὐτοῖς, καὶ ἄλλα μετ' αὐτῶν τοιαῦτα ξυνέπραξαν, τοῖς τε πλέοσιν ὄρμηγτο ἐπιτίθεσθαι. οἱ δὲ αἰσθόμενοι τῶν τε στρατηγῶν Λέοντι καὶ Διομέδοντι τὸ μέλλον σημαίνουσι καὶ Θρασυβούλῳ καὶ Θρασύλλῳ, τῷ μὲν τριηραρχοῦντι τῷ δὲ ὀπλιτεύοντι, καὶ ἄλλοις οἱ ἐδόκουν αἰεὶ μάλιστα ἐναντιοῦσθαι τοῖς ξυνεστῶσιν· καὶ οὐκ ἤξιον περιῦδειν αὐτοὺς σφᾶς τε διαφθαρέντας καὶ Σάμον Ἀθηναίοις ἀλλοτριωθεῖσαν, δι' ἣν μὴν ἢ ἀρχὴ αὐτοῖς ἐς τοῦτο ξυνέμεινεν.

Thucydides viii, 73.

(c) *The Athenian traitors in Philip's pray.*

Εὐ γὰρ εἰδέναι χρὴ τοῦθ', ὅτι οὐ καταφρονεῖ Φίλιππος, ὡ ἄνδρες Ἀθηναῖοι, τῆς πόλεως τῆς ὑμετέρας, οὐδ' ἀχρηστοτέρους νομίσας ὑμᾶς Θηβαίων ἐκείνους εἶλετ' ἀνθ' ὑμῶν. ἀλλ' ὑπὸ τούτων ἐδιδάχθη καὶ ταῦτ' ἤκουσεν, ἃ καὶ πρότερόν ποτ' εἶπον ἐγὼ πρὸς ὑμᾶς ἐν τῷ δῆμῳ καὶ τούτων οὐδεὶς ἀντεῖπεν, ὡς ὁ μὲν δῆμός ἐστιν ἀσταθμητότατον πρᾶγμα τῶν πάντων καὶ ἀσυνθετώτατον, ὡσπερ ἐν θαλάττῃ πνεῦμα ἀκατάστατον, ὡς ἂν τύχη, κινούμενον. ὁ μὲν ἦλθεν, ὁ δ' ἀπῆλθεν· μέλει δ' οὐδενὶ τῶν κοινῶν, ἀλλ' οὐδὲ μέμνηται. δεῖ δέ τινας φίλους ὑπάρχειν τοὺς ἕκαστα πράξοντας ἐν ὑμῖν αὐτῷ καὶ διοικῆσοντας, οἷον αὐτὸς δὴ· κἄνπερ αὐτῷ τοῦτο κατασκευασθῆ, πᾶν ὃ τι ἂν βούληται παρ' ὑμῖν ῥαδίως διαπράξεται.

εἰ μὲν οὖν ἤκουσεν, οἶμαι, τοὺς τότε ταῦτα πρὸς αὐτὸν εἰπόντας παραχρήμα, ὡς δεῦρ' ἐπανήλθον, ἀποτετυμπανισμένους, ἐποίησεν ἂν ταῦτὸ τῷ βασιλεῖ. τί δ' ἦν ὁ ἐκείνος ἐποίησεν; ἔξαπατηθεὶς ὑπὸ Τιμαγόρου καὶ τετταράκοντα τάλαντα, ὡς λέγεται, δεδωκὼς αὐτῷ, ἐπειδὴ παρ' ὑμῖν ἐπέθετο αὐτὸν τεθνεῶτα καὶ οὐδὲ τοῦ ζῆν ὄντα κύριον αὐτῷ βεβαιῶσαι, μή τί γ' ἂ ἐκείνῳ τόθ' ὑπέσχετο πράξαι, ἔγνω τὴν τιμὴν οὐχὶ τῷ κυρίῳ τῶν πραγμάτων δεδωκὼς. καὶ γάρ τοι πρῶτον μὲν Ἀμφίπολιν πάλιν ὑμετέραν δούλην κατέστησεν, ἦν τότε σύμμαχον αὐτοῦ καὶ φίλην ἔγραψεν· εἰτ' οὐδενὶ πώποτ' ἔδωκε χρήματα τοῦ λοιποῦ.

Demos.: On the Embassy, § 135.

### Ancient History.

#### ROMAN HISTORY—GENERAL.

At least Three and not more than Four questions to be answered.

1. What is known of the constitution of the Latin League? Examine the early history of Rome so as to show the part played in it by the league.

2. Account for the social and political position that resulted in the struggle between the orders. Briefly describe the main phases of the struggle, and show the position finally reached at the passing of the Hortensian Law.

3. Examine the history of the "Fifty years of foreign conquest" (198-146 B.C.) so as to show the considerations of policy that influenced the Roman Government in the various wars. Briefly indicate the extent of territorial expansion in these years.

4. To what do you attribute the downfall of the Republic? Establish your views by reference to the events of the last century of the Republic.

5. Give an account of the development of trade and commerce in the Republican period. Emphasise any important contrasts with the trade and commerce of modern times.

6. What important changes in the system of government took place in the first and second centuries of the Empire?

7. Show briefly the growing weakness of the Empire from the time of Marcus Aurelius. State and criticise the various causes that have been advanced for the Downfall.

### GREEK HISTORY—SPECIAL PERIOD.

At least Three and not more than Four questions to be answered.  
Candidates for Greek II must answer Question 1.

1. Translate and comment on—

(a) ἔγραψα δὲ αὐτὰ καὶ τὴν ἐκβολὴν τοῦ λόγου ἐποίησάμην διὰ τόδε, ὅτι τοῖς πρὸ ἐμοῦ ἅπασιν ἐκλιπέε τοῦτο ἦν τὸ χωρίον καὶ ἡ τὰ πρὸ τῶν Μηδικῶν Ἑλληνικὰ ξυνετίθεσαν ἡ αὐτὰ τὰ Μηδικά.

Thuc. i, 97.

(b) οἱ γὰρ Λακεδαιμόνιοι ἐπειδὴ τὸ χωρίον βία οὐχ ἠλίσκετο, δείσαντες τῶν Αθηναίων τὸ τολμηρὸν καὶ τὴν νεωτεροποιίαν, καὶ ἀλλοφύλους ἅμα ἡγησάμενοι, μὴ τι, ἦν παραμεινώσιν, ὑπὸ τῶν ἐν Ἰθώμῃ πεισθέντες νεωτερίσωσι, μόνους τῶν ξυμμάχων ἀπέπεμψαν, τὴν μὲν ὑποψίαν οὐ δηλοῦντες, εἰπόντες δὲ ὅτι οὐδὲν προσδέονται αὐτῶν ἔτι.

Thuc. i, 102.

(c) οἱ δὲ ταῦτα κολακείαν ὄχλου καὶ δημαγωγίαν εἶναι διαβάλλοντες ὑπὸ τῆς ἄλλης ἐξηλέγχοντο τοῦ ἀνδρὸς προαιρέσεως ἀριστοκρατικῆς καὶ Λακωνικῆς οὔσης, ὅς γε καὶ Θεμιστοκλεῖ πέρα τοῦ δέοντος ἐπαίροντι τὴν δημοκρατίαν ἀντέβαινε μετ' Ἀριστείδου. . . .

Plutarch : Cimon ii.

(d) ἐδίδασκεν οὖν ὁ Περικλῆς τὸν δῆμον, ὅτι χρημάτων μὲν οὐκ ὀφείλουσι τοῖς συμμαχοῖς λόγον προπολεμοῦντες αὐτῶν καὶ τοὺς βαρβάρους ἀνείργοντες, οὐχ ἵππον, οὐ ναῦν, οὐχ ὀπλίτην, ἀλλὰ χρήματα μόνον τελούντων, ἃ τῶν διδόντων οὐκ ἔστιν, ἀλλὰ τῶν λαμβανόντων, ἃν παρέχωσιν ἀνθ' οὗ λαμβάνουσιν.

Plutarch : Pericles 12.

2. On what authorities does the history of the years 478-435 rest ?
3. State the critical problem of the Eurymedon campaign.
4. Discuss the chronology of events from the rupture between Athens and Sparta to the Thirty Years' Peace. Show the greatness of the effort made by Athens in the earlier years of the war.
5. Show the process of transition from Athenian Confederacy to Athenian Empire.
6. Briefly set out in chronological order the most important steps taken in strengthening and beautifying the city during your period.

### English I.—Paper I.

#### PART I.

Write an Essay upon *one* of the following subjects :—

- (a) "Poets are the unacknowledged legislators of the world."
- (b) Romance and chivalry in English Literature.
- (c) "A conflict of opposing ambitions wears out the moral no less than the material forces of a people, but the ferment of hostile ideas and convictions may realise resources of character which were before only potential, may transform a merely gregarious multitude into a nation proud in its strength, and groping after a common ideal."

#### PART II.—GENERAL PERIOD OF ENGLISH LITERATURE.

Only Three questions to be attempted.

1. Discuss the influence of Christianity upon Anglo-Saxon Literature.
2. Give a detailed account of the Celtic and Norman-French influences on the development of the Arthurian Legend.

3. Briefly estimate the debt owed by English Literature to other literatures from the Norman Conquest to the death of Chaucer.

4. Write short critical notes upon each of the following, and estimate its importance in English Literature :—

- (a) Beowulf ;
- (b) Boethius' " Consolation of Philosophy " ;
- (c) Layamon's " Brut " ;
- (d) Caxton's " Prefaces " ;
- (e) Langland's " Piers Plowman."

5. Trace the rise of Allegory in the Middle Ages, and discuss its influence upon English Literature.

6. Write short notes on any *five* of the following :—

- (a) Epic Poetry ;
- (b) Alliterative Verse ;
- (c) Renaissance ;
- (d) The Three Unities ;
- (e) Quantitative Metre ;
- (f) Sonnet Sequence ;
- (g) Euphuism ;
- (h) Liturgical Drama ;
- (i) University Wits.

### PART III.—HISTORY OF LANGUAGE.

**Only Two questions to be attempted.**

1. Give a concise account of the Scandinavian influence upon the English language.

2. Explain how the Teutonic dialects differ from other West Aryan dialects, and give a full account of the working of Grimm's Law.

3. " It is extraordinary to note the number of words which were *not* adopted and to realise what good use the Anglo-Saxons made of material already in their possession." Explain and comment upon the above remark regarding Latin borrowings by the Anglo-Saxons.

4. Write short notes on each of the following words :—  
Quarry, granary, at bay, queen, count, pagan, bounty, gage, gaol, rich, glamour, hemlock.



## English I.—Paper II.

1. Locate and explain the meaning, allusions, and peculiarities of expression in *seven* of the following :—

- (a) Ful semély after hir mete she raughte,  
And sikerly she was of greet desport,  
And ful plesáunt and amyable of port,  
And peynéd hire to counterfeté cheere  
Of Court, and been estatlich of manere. . . .
- (b) He kepté that he wan in pestilence  
For gold in phisik is a cordial,  
Therefore he lovéde gold in special.
- (c) And this day fifty wykés, fer ne ner,  
Everich of you shal brynge an hundred knyghtes  
Arméd for lystés up at allé rightes,  
Al redy to darreyne hire by bataille.
- (d) And more, to lulle him in his slumber soft,  
A trickling stream from high rock tumbling downe,  
And ever drizling raine upon the loft,  
Mixt with the murmuring winde, much like the  
    sowne  
Of swarming bees, did cast him in a swowne :
- (e) . . . And did bestow  
Upon the daughter of this woman blind,  
Abessa, daughter of Corceca slow,  
And fed her fat with feast of offerings,  
And plenty, which in all the land did grow  
Ne spared he to give her gold and rings :
- (f) What need the arctic people love star-light,  
To whom the sun shines both by day and night ?  
Farewell base stooping to the lordly peers !
- (g) He wears a lord's revenue on his back,  
And, Midas-like, he jets it in the court,  
With base outlandish cullions at his heels,  
Whose proud fantastic liveries make such show  
As if that Proteus, god of shapes, appear'd.
- (h) If he be not apt to beat over matters, and to call up  
one thing to prove and illustrate another, let  
him study the Lawyers cases : So every defect  
of the minde may have a speciall receipt.

- (i) Set you down this ;  
 And say besides, that in Aleppo once,  
 Where a malignant and a turban'd Turk  
 Beat a Venetian and traduced the State,  
 I took by the throat the circumcised dog  
 And smote him thus.
- (j) My blood begins my safer guides to rule ;  
 And passion having my best judgment collid,  
 Assays to lead the way : if I once stir,  
 Or do but lift this arm, the best of you  
 Shall sink in my rebuke.

2. " There is little doubt that the idea of forming the tales into a continuous series first occurred to Chaucer either in 1386 or 1387."

State evidence in justification of this claim.

3. Discuss Chaucer's use of environment in the Prologue to the Canterbury Tales, and compare it with Spenser's in the First Book of the Faery Queene.

4. (a) Write an abstract of Bacon's Essay " Of Truth."

(b) Discuss the propriety of the title " Essay" for such work.

(c) Estimate the real value of Bacon's Essays as a contribution to English prose.

5. Give a concise account of the evolution of the History or Chronicle Play, and in this connection discuss the statement that " Edward the Second" is the best and most finished of all Marlowe's plays, and in some respects surpasses any of Shakespear's Histories.

6. By what differing characteristics is the tragedy of Othello united to, and distinguished from, the other Shakespearian plays of the group to which it belongs ?

*Or—*

Discuss the statement that the method of construction of Othello is unusual and in great part accounts for the fact that Othello is the most painful of Shakespear's tragedies.

7. Compare and contrast the methods by which (a) colour, (b) passion, (c) poetry are achieved in the Knight's Tale, The Fairy Queen, and Othello.

Or—

Comment upon the following :—

“ Othello the most painful of all tragedies, leaves us finally exulting in the power of ‘ love and man's unconquerable mind.’ ”

### English II.—Paper I.

#### PART I.

1. Write an Essay on *one* of the following subjects :—

- (a) Nature in English Romantic Poetry ;
- (b) “ The supremacy of an intellectual vision is not a common characteristic among poets, but it raises Milton and Shelley to the choir in which Dante and Goethe are leaders.”
- (c) National Character in English Literature from 1600-1800.

#### PART II.—GENERAL PERIOD OF ENGLISH LITERATURE.

Only Five questions to be attempted.

1. Trace the evolution of Comedy from the Middle Ages until the end of the Restoration period.
2. Give a concise account of the poetry of the seventeenth century, and estimate its influence in generating the so-called “ correct ” manner of the following periods.
3. Trace the evolution of tragi-comedy, and discuss the statement that “ Philaster ” is the finest tragi-comic play which, if we may trust traditional dates, preceded “ The Winter's Tale.”
4. Substantiate and illustrate the following statement :—  
 “ The prose literature of the Caroline period, therefore, as well as of the period extending considerably beyond it, possesses a strongly religious or theological character.”

5. Compare and contrast the methods of Samuel Butler, Dryden, Pope, and Swift in satiric characterisation ;

*Or—*

Comment on the following :—

“ ‘The Tale of a Tub’ is one of the greatest books in the world, one in which a great drift of universal thought receives consummate literary form.”

6. Explain and illustrate the following :—

“The eighteenth century has frequently been lauded as the one in which literary merit was recognised by the distributors of State patronage ; it would perhaps be better to regard it as the period in which the press was first recognised as a power in the hands of party politicians.”

7. “The English novel, properly speaking, sprang rather suddenly into life ; at first sight, there is no evidence of any transition leading to it from the rather indeterminate forms of fiction that were its predecessors. As a matter of fact, what transition there is, actually is a reaction.”

Explain and justify this statement.

8. Write a short critical account of the following, and show their importance in English Literature :—

- (a) Pamela ;
- (b) Ossian ;
- (c) The Rowley Forgeries ;
- (d) Lyrical Ballads ;
- (e) Prometheus Unbound

### English II.—Paper II.

1. Annotate the following passages, and briefly indicate the context of each :—

- (a) “O Proserpina,  
For the flowers now, that frighted thou let'st fall  
From Dis's waggon ! daffodils,  
That come before the swallow dares, and take  
The winds of March with beauty ; violets dim,  
But sweeter than the lids of Juno's eyes

Or Cytherea's breath; pale primroses,  
That die unmarried, ere they can behold  
Bright Phœbus in his strength—a malady  
Most incident to maids; bold oxlips and  
The crown imperial; lilies of all kinds,  
The flower-de-luce being one!

- (b) "He shall shoot in a stone-bow for me. I never loved his beyond-sea-ship since he forsook the say, for paying ten shillings. He was there at the fall of a deer, and would needs (out of his mightiness) give ten groats for the dowcets; marry, his steward would have the velvet-head into the bargain, to turf his hat withal."
- (c) "Alas! What boots it with uncessant care  
To tend the homely slighted shepherd's trade,  
And strictly meditate the thankless Muse,  
Were it not better don as others use,  
To sport with Amaryllis in the shade,  
Or with the tangles of Nææra's hair?  
Fame is the spur that the clear spirit doth raise  
(That last infirmity of noble mind)  
To scorn delights, and live laborious days;  
But the fair Guerdon when we hope to find,  
And think to burst out into sudden blaze,  
Comes the blind Fury with th' abhorred shears  
And slits the thin spun life."
- (d) "The same year was written the 'Essay on Criticism'; a work which displays such extent of comprehension, such nicety of distinction, such acquaintance with mankind, and such knowledge of both ancient and modern learning, as are not often attained by the maturest age and longest experience."
- (e) "Black his cryne as the winter night,  
White his rode as the summer snow,  
Red his face as the morning light,  
Cold he lies in the grave below."
- (f) Translate the following into Modern English, locate,

and annotate :—

“ A raton of renon · most renable of tonge,  
 Seide for a sovereyne · help to hym-selue :  
 ‘ I have ysein segges, ’ quod he · in þe cite of London  
 Beren bizes ful briȝte · abouten here nekkes,  
 And some colers of crafty werk ; uncoupled þei wenden  
 Boþe in wareine & in waste · where hem leue lyketh,  
 And otherwhile þei aren elles-where · as I here telle ;  
 Were þere a belle on here beiȝ · bi Ihesu, as me thynketh,  
 Men myȝte wite where þei went · and awei renne ! ”

2. Discuss “ Constitutional ideas had not in the whole field of English literature, during the 14th century, a better representative than Langland ; it may almost be said that they had no other ” ;

*Or—*

Briefly outline and discuss the theory of authorship of “ Piers the Plowman ” which you consider most plausible.

3. Criticise the following statement, applying it especially to “ The Winter’s Tale ” :—“ While grievous errors of the heart are shown to us, and wrongs of man as cruel as those of the great tragedies, at the end there is a resolution of the dissonance, a reconciliation . . . The resolution of the discords in these latest plays is not a mere stage necessity, or a necessity of composition, resorted to by the dramatist to effect an ending of his play, and little interesting his imagination or his heart. Its significance here is ethical and spiritual ; it is a moral necessity.”

*Or—*

Discuss Shakespeare’s attitude towards Nature as seen in “ The Winter’s Tale,” and compare it with that of Milton, illustrated in the Minor Poems.

4. Criticise “ Lycidas ” as a transition poem between the first and last periods of Milton’s poetic development.

*Or—*

Write a short critical appreciation of “ Lycidas ” as an elegy, comparing it with other elegiac poetry in English literature.

5. How far do you consider the following criticism of Johnson fair and true :—“ He decided literary questions like a lawyer, not like a legislator ” (*Macaulay*) ;

*Or—*

Discuss the ultimate value of Swift to English literature.

6. Briefly outline the history of the “ Return to Nature ” in 18th century English poetry ;

*Or—*

Discuss the position of Blake as the most distinguished forerunner of the English Romantic Movement.

#### French I.—Paper I.

Translate—

1. We now wended our way back to the coast, intending to encamp near the beach, as we found that the mosquitoes were troublesome in the forest. On our way we could not help admiring the birds which flew and chirped around us. Among them we observed a pretty kind of paroquet, with a green body, a blue head and a red breast ; also a few beautiful turtle-doves, and several flocks of wood-pigeons. The hues of many of these birds were extremely vivid,—bright green, blue and scarlet being the prevailing tints. We made several attempts throughout the day to bring down one of these, both with the bow and the sling,—not for mere sport, but to ascertain whether they were good for food. But we invariably missed, although once or twice we were very near hitting. As evening drew on, however, a flock of pigeons flew past. I slung a stone in the midst of them at a venture, and had the good fortune to kill one. We were startled, soon after, by a loud whistling noise above our heads ; and on looking up, saw a flock of wild ducks making for the coast. We watched these, and, observing where they alighted, followed them up until we came upon a most lovely blue lake, not more than two hundred yards long, embosomed in verdant trees.

Ballantyne : *The Coral Island*.

2. Si l'on examine l'âme moderne, on y rencontre des altérations, des disparates, des maladies, et, pour ainsi dire, des hypertrophies de sentiments et de facultés dont son art est la contre-épreuve.—Au moyen-âge, le développement exagéré de l'homme spirituel et intérieur, la, recherche du rêve sublime et tendre, le culte de la douleur, le mépris du corps, conduisent

l'imagination et la sensibilité surexcitées jusqu'à la vision et l'adoration séraphiques. . . . Par suite, dans la peinture et la sculpture, les personnages sont laids ou dépourvus de beauté, souvent disproportionnés et non viables, presque toujours maigres, atténués, mortifiés et absorbés par une pensée qui détache leurs yeux de la vie présente, immobiles dans l'attente ou dans le ravissement, avec la douceur triste du cloître, ou le rayonnement de l'extase, trop frêles ou trop passionnés pour vivre et déjà promis au ciel.—Au temps de la Renaissance, l'amélioration universelle de la condition humaine, l'exemple de l'antiquité retrouvée et comprise, l'élan de l'esprit délivré et enorgueilli par ses grandes découvertes, renouvellent le sentiment et l'art païens. Mais les institutions et les rites du moyen-âge subsistent encore, et, en Italie comme en Flandre, vous voyez, dans les plus belles oeuvres, le contraste choquant des figures et du sujet.

Taine : Philosophie de l'Art.

3. C'est à vous d'en sortir, vous qui parlez en maître :  
 La maison m'appartient, je le ferai connaître,  
 Et vous montrerai bien qu'en vain on a recours  
 Pour me chercher querelle à de lâches détours,  
 Qu'on n'est pas où l'on pense en me faisant injure,  
 Que j'ai de quoi confondre et punir l'imposture,  
 Venger le Ciel qu'on blesse, et faire repentir  
 Ceux qui parlent ici de me faire sortir.

4. Si les occasions de récompenser vos services sont plus rares que je ne souhaiterois, je vais au moins, en attendant qu'elles se présentent, vous donner quelques marques de l'estime et de l'affection particulière que j'ai pour vous. Conservez le portrait que je vous envoie comme une assurance de mes sentimens. La simplicité du présent doit vous prouver que je n'ai pas voulu qu'il ait rien au delà de ce qu'il contient en lui, et ainsi rien au dessus du prix que vous y mettez.

5. C'est la dernière fois, madame, absolument.  
 On le peut voir encore sur le champ de bataille ;  
 Il frappe à droite, à gauche, et d'estoc et de taille ;  
 Il se défend, madame, encore comme un lion.  
 Je l'ai vu, dans l'effort de la convulsion,  
 Maudissant les hasards d'un combat trop funeste :  
 De sa bourse expirante il ramassait le reste ;  
 Et paraissant encor plus grand dans son malheur,  
 Il vendait cher son sang et sa vie au vainqueur.



6. Sais-tu pourquoi mes vers sont lus dans les provinces,  
Sont recherchés du peuple, et reçus chez les princes ?  
Ce n'est pas que leurs sons, agréables, nombreux,  
Soient toujours à l'oreille également heureux ;  
Qu'en plus d'un lieu le sens n'y gêne la mesure,  
Et qu'un mot quelquefois n'y brave la césure ;  
Mais c'est qu'en eux le vrai, du mensonge vainqueur,  
Partout se montre aux yeux, et va saisir le cœur.
7. Celle qui de son chef les estoilles passoit  
Et d'un pied sur Thetis, l'autre dessous l'Aurore,  
D'une main sur le Scythe, et l'autre sur le More,  
De la terre, et du ciel, la rondeur compassoit,  
Juppiter ayant peur, si plus elle croissoit,  
Que l'orgueil des Geans se relevast encore,  
L'accabla sous ces monts, ces sept monts qui sont ore  
Tumbeaux de la grandeur qui le ciel menassoit.

#### French I.—Paper II.

1. Write in French a short Essay on *one* of the following subjects :—

- (a) “ Rarement un esprit ose être ce qu'il est ” ;  
(b) L'amour de la gloire ;  
(c) La mort de Molière.

2. Translate the following passages, indicate in what context they occur, and comment, if you think it desirable :—

- (a) C'est à vous, non à lui, que le mari doit plaire.  
(b) Tête de poisson ! comme vous y allez ! . . .  
(c) Rien que la mort n'était capable  
D'expier son forfait. . . .  
(d) Je sais quand il le faut, par un peu d'artifice  
D'un sort injurieux corriger la malice.  
(e) Oh ! que le ciel, soigneux de notre poésie,  
Grand roi, ne nous fit-il plus voisins de l'Asie !

**Answer not more than Five of the following questions.**

3. What seems to have prompted the efforts made to prevent the performance of Molière's *Tartuffe*, and do you think they were justifiable?

4. How would you explain that a French critic should write—"Les autres peuples, par leurs poètes, leurs orateurs, leurs philosophes ou leurs historiens, nous égalent ou nous surpassent : ont-ils eu, auront-ils jamais leur Sévigné" ? Do you think this doubt to be justified as regards English Literature?

5. Point out differences in the manifestations of the Renaissance in France or in England.

6. What are the affinities of literary and other aims noticeable in the writings of Molière and Boileau ?

7. Would it be possible to place Regnard's *Joueur* on the same level of literary excellence as Molière's *Tartuffe*? Give reasons for your answer.

8. Explain, by means of quotations from French verse, the views of Boileau on the choice of rhyming words.

9. Why do you think several contemporaries of Boileau, including La Fontaine, considered the following lines of his first *Épître* the best he ever wrote ?—

"Et nos voisins frustrés de ces tributs serviles  
Que payait à leur art le luxe de nos villes."

10. What method did Descartes advocate for reading books ? Can you tell of any signs that his contemporaries followed his advice?

### French II.—Paper I.

Translate—

1. I suppose as long as novels last and authors aim at interesting their public, there must always be in the story a virtuous and gallant hero, a wicked monster his opposite, and a pretty girl who finds a champion. Bravery and virtue conquer beauty : and vice, after seeming to triumph through a certain number of pages, is sure to be discomfited in the last volume, when justice overtakes him and honest folks come to their own. There never was perhaps a greatly popular story but this simple plot was carried through it : mere satiric wit is addressed to a class of readers and thinkers quite different to those simple souls who laugh and weep over the novel. I fancy very few ladies indeed, for instance, could be brought to like *Gulliver* heartily and (putting the coarseness and difference of manners out of the question) to relish the wonderful satire of *Jonathan Wild*. In that strange apologue, the author

takes for a hero the greatest rascal, coward, traitor, tyrant, hypocrite, that his wit and experience, both large in this matter, could enable him to devise or depict ; he accompanies this villain through all the actions of his life, with a grinning deference and a wonderful mock respect : and doesn't leave him, till he is dangling at the gallows, when the satirist makes him a low bow and wishes the scoundrel good day.

Thackeray : English Humourists.

2. Il est absurde et scandaleux qu'une compagnie proprement littéraire et qui, par définition, doit compter " dans son sein " les meilleurs écrivains du temps, soit à ce point encombrée de médiocrités, et il y a pas mal de ces bonshommes à qui on aurait envie de fourrer dans les narines les branches de persil qu'ils portent sur leur collet ?—Mais non : il y en a une bonne moitié qui sont incontestablement des esprits ou des talents supérieurs (ce qui est une jolie proportion !), et les autres sont tout au moins de bons lettrés et, je suppose, d'honnêtes gens. Je ne vous dirai pas que " L'Académie est un salon," parce que je crois que ce mot est une bêtise, et parce qu'il ne nous importe nullement que trente-neuf messieurs très bien élevés se rassemblent de temps en temps pour causer avec politesse au bout du pont des Arts. Mais je pense, avec Anatole France, qu'il est excellent que l'Académie ne soit pas infailible ou même soit parfois injuste dans ses choix. Car si les membres de cette vénérable compagnie étaient nécessairement les quarante plus grands esprits de France, ce serait trop triste pour les autres : ils seraient jugés par là même ; tandis que, l'Académie se recrutant parfois d'une façon bizarre, on est tout de même content d'en être, et on n'est pas humilié de n'en être pas.

Jules Lemaitre : Les Contemporaires.

3. Fouler aux pieds la raison, la nature et les lois ! préjugé funeste ! abus cruel du point d'honneur ! tu ne pouvais avoir pris naissance que dans les temps les plus barbares : tu ne pouvais subsister qu'ou milieu d'une nation vaine et pleine d'elle-même, qu'au milieu d'un peuple dont chaque particulier compte sa personne pour tout, et sa patrie et sa famille pour rien. Et vous, lois sages, vous avez désiré mettre un frein à l'honneur, vous avez ennobli l'échafaud ; votre sévérité a servi à froisser le cœur d'un honnête homme entre l'infamie et le supplice.

4. Vers l'heure où le soleil déclinait, il s'examina de

nouveau et il se trouva presque fou. La tempête qui durait en lui depuis l'instant où il avait perdu l'espoir et la volonté de sauver l'égyptienne, cette tempête n'avait pas laissé dans sa conscience une seule idée saine, une seule pensée debout. La raison y gisait à peu près entièrement détruite. Il n'avait plus que deux images dans l'esprit, la Esmeralda et la potence. Tout le reste était noir. Ces deux images rapprochées lui présentaient un groupe effroyable et plus il y fixait ce qui lui restait d'attention et de pensée, plus il les voyait croître, selon une progression fantastique, l'une en grâce, en charme, en beauté, en lumière, l'autre en horreur, de sorte qu'à la fin la Esmeralda lui apparaissait comme une étoile, le gibet comme un énorme bras décharné.

5. Dans une petite ville on trouve, proportion gardée, moins d'activité sans doute que dans une capitale, parce que les passions sont moins vives et les besoins moins pressants ; mais plus d'esprits originaux, plus d'industrie inventive, plus de choses vraiment neuves, parce qu'on y est moins imitateur, qu'ayant peu de modèles, chacun tire plus de lui-même, et met plus du sien dans tout ce qu'il fait ; parce que l'esprit humain, moins étendu, moins noyé parmi les opinions vulgaires, s'élabore et fermente mieux dans la tranquille solitude ; parce qu'en voyant moins, on examine davantage ; enfin parce que, moins pressé du temps, on a plus le loisir d'étendre et digérer ses idées.

6. Que ce vent dans ma voile avec grâce soupire !  
 On dirait que le flot reconnaît mon navire,  
 Comme le fier coursier, par son maître flatté  
 Hennit en revoyant celui qu'il a porté.  
 Oui, vous m'avez déjà bercé sur vos rivages,  
 O vagues, de mon cœur orageuses images,  
 Plaintives, sans repos, terribles comme lui !  
 Vous savez qui j'étais ! Mais qui suis-je aujourd'  
 hui ?
7. Rien de bruyant, rien d'agité  
 Dans leur triste félicité !  
 Ils se couronnent sans gaîté  
 De fleurs nouvelles.  
 Ils se parlent, mais c'est tout bas ;  
 Ils marchent, mais c'est pas à pas ;  
 Ils volent, mais on n'entend pas  
 Battre leurs ailes.

**French II.**—Paper II.

1. Write in French a short Essay on *one* of the following subjects :—

(a) Conséquences littéraires de la vulgarisation de la lecture :

(b) Napoléon et la littérature française ;

(c) La vie de société dans les grandes villes et les petites.

2. Translate the following passages, indicate in what context they occur, and comment if you think it desirable :—

(a) J'ai craint que l'orgueil d'un grand nom ne devint le germe de vos vertus.

(b) Par ma foi ! il y a plus de quarante ans que je dis de la prose sans que j'en susse rien.

(c) Ce large suisse à cheveux blancs  
Qui ment sans cesse à votre porte.

(d) Ceci tuera cela. Le livre tuera l'édifice.

(e) Seigneur, une jeune fille qui se respecte ne se hasarde pas sur les pièces d'eau.

(f) Il peut y avoir dans le monde quelques femmes dignes d'être écoutées d'un honnête homme.

**Answer not more than Five of the following questions.**

3. How does the *Bourgeois Gentilhomme* illustrate the artistic and ethical aims of Molière's comedies ?

4. What change may be felt in the attitude of the commercial and aristocratic classes towards each other when comparing the *Bourgeois Gentilhomme* and the *Philosophe sans le Savoir*.

5. Show in *Notre-Dame de Paris* the application of Hugo's principle : " Elle (la Muse Moderne) se mettra à faire comme la nature, à mêler dans ses créations, sans pourtant les confondre, l'ombre à la lumière, le grotesque au sublime, en d'autres termes, le corps à l'âme, la bête à l'esprit."

6. Why might André Chénier be called the only French poet during the XVIIIth century ?

7. Define and contrast Lamartine's optimism and Vigny's pessimism.

8. Discuss Rousseau's ideas as to the spectacles and festivals suitable for a democracy.

9. What is your reply to Rousseau's question—" Quel est le plus blâmable, d'un bourgeois sans esprit et vain qui fait sotttement le gentilhomme, ou du gentilhomme fripon qui le dupe? Dans la pièce dont je parle, ce dernier n'est-il pas l'honnête homme? n'as-t-il pas pour lui l'intérêt et le public n'applaudit-il pas à tous les tours qu'il fait à l'autre? "

10. Point out the likeness, if any, between the views advocated by Molière in his comedies and those underlying Musset's play: *On ne badine pas avec l'amour*.

Or—

How far does *On ne badine pas avec l'amour* fulfil the conditions imposed upon dramatic art by the French classical theorists and how far does it depart from their rules.

### German I.—Paper I.

1. Translate into idiomatic English—

(a) " Ich weiss nicht, ob täuschende Geister um diese Gegend schweben, oder ob die warme himmlische Phantasie in meinem Herzen ist, die mir alles rings umher so paradiesisch macht. Da ist gleich vor dem Orte ein Brunnen, ein Brunnen, an den ich gebannt bin, wie Melusine mit ihren Schwestern.— Du gehst einen kleinen Hügel hinunter, und findest dich vor einem Gewölbe, da wohl zwanzig Stufen hinabgehen, wo unten das klarste Wasser aus Marmorfelsen quillt. Die kleine Mauer, die oben umher die Einfassung macht, die hohen Bäume, die den Platz rings umher bedecken, die Kühle des Orts; das hat alles so was Anzügliches, was Schauerliches. Es vergeht kein Tag, dass ich nicht eine Stunde da sitze. Da kommen dann die Mädchen aus der Stadt und holen Wasser, das harmloseste Geschäft und das nötigste, das ehemals die Töchter der Könige selbst verrichteten. Wenn ich da sitze, so lebt die patriarchalische Idee so lebhaft um mich, wie sie, alle die Alt-

väter, am Brunnen Bekanntschaft machen und freien, und wie um die Brunnen und Quellen wohltätige Geister schweben. Oder muss nie nach einer schweren Sommertagswanderung sich an des Brunnens Kühle gelabt haben, der das nicht mitempfinden kann.”

Die Leiden des jungen Werthers.

(b) “ Wie rafft’ ich mich auf in der Nacht, in der Nacht,  
Und fühlte mich fürder gezogen !  
Die Gassen verliess ich, vom Wächter bewacht,  
Durchwandelte sacht  
In der Nacht, in der Nacht,  
Das Tor mit dem gotischen Bogen.

Der Mühlbach rauschte durch felsigen Schacht,  
Ich lehnte mich über die Brücke,  
Tief unter mir nahm ich der Wogen in acht,  
Die wallten so sacht  
In der Nacht, in der Nacht,  
Doch wallte nicht eine zurücke.

Es drehte sich oben, unzählig entfacht,  
Melodischer Wandel der Sterne,  
Mit ihnen der Mond in beruhigter Pracht,  
Sie funkelten sacht.  
In der Nacht, in der Nacht,  
Durch täuschend entlegene Ferne.” Von Platen.

2. Translate into idiomatic English, locate, and comment upon the following :—

(a) “ Wie eine Familienspazierfahrt im Sommer durch ein plötzliches Gewitter auf eine höchst verdriessliche Weise gestört und ein froher Zustand in den widerwärtigsten verwandelt wird, so fallen auch die Kinderkrankheiten unerwartet in die schönste Jahreszeit des Frühlebens. Mir erging es auch nicht anders. Ich hatte mir eben den Fortunatus mit seinem Säckel und Wünschhütlein gekauft, als mich ein Missbehagen und ein Fieber über fiel, wodurch die Pocken sich ankündigten. Die Einimpfung derselben ward bei uns noch immer für sehr problematisch angesehen, und ob sie gleich populäre Schriftsteller schon fasslich und eindringlich empfohlen, so zauderten doch die deutschen Aerzte mit einer Operation, welche der Natur vorzugreifen schien.”

(b) "Freude, schöner Götterfunken,  
 Tochter aus Elysium,  
 Wir betreten feuertrunken,  
 Himmlische, dein Heiligtum.  
 Deine Zauber binden wieder,  
 Was die Mode streng geteilt,  
 Alle Menschen werden Brüder,  
 Wo dein sanfter Flügel weilt.  
 Seid umschlungen, Millionen !  
 Diesen Kuss der ganzen Welt !  
 Brüder—überm Sternenzelt  
 Muss ein lieber Vater wohnen.

Wem der grosse Wurf gelungen,  
 Eines Freundes Freund zu sein,  
 Wer ein holdes Weib errungen,  
 Mische seinen Jubel ein ?  
 Ja—wer auch nur *eine* Seele  
 Sein nennt auf dem Erdenrund !  
 Und wer's nie gekonnt, der stehle  
 Weinend sich aus diesem Bund."

3. Translate into German—

"We see this in their literature. It is probable that none but artistic natures will ever render full justice to the poetry of the Renaissance. Critics endowed with a less lively sensibility to beauty of outline and to harmony of form than the Italians, complain that their poetry lacks substantial qualities ; nor is it except by long familiarity with the plastic arts of their contemporaries that we come to understand the ground assumed by Ariosto and Poliziano. We then perceive that these poets were not so much unable as instinctively unwilling to go beyond a certain circle of effects. They subordinated their work to the ideal of their age, and that ideal was one to which a painter rather than a poet might successfully aspire. A succession of pictures, harmoniously composed, and delicately toned to please the mental eye, satisfied the taste of the Italians. But however exquisite in design, rich in colour, and complete in execution this literary work may be, it strikes a Northern student as wanting in the highest elements of genius—sublimity of imagination, dramatic passion, energy and earnestness of purpose."

J. A. Symonds.



**German I.—Paper II.**

## PART I.

Write an Essay in German upon *one* of the following subjects :—

- (a) Der Sturm und Drang in der deutschen Litteratur ;
- (b) Der Übermensch in der deutschen Litteratur des 18. Jahrhunderts ;
- (c) Deutsche Lyrik.

## PART II.

1. Comment upon, and explain by reference to context, the following passages :—

(a) “ Das kann wohl sein. Wahrhaftig, er ist erbrochen. Wer muss ihn denn erbrochen haben ? Doch gelesen haben wir ihn wirklich nicht, Herr Major, wirklich nicht. Wir wollen ihn auch nicht lesen, denn der Schreiber kömmt selbst. Kommen Sie ja ; und wissen Sie was, Herr Major ? Kommen Sie nicht so, wie Sie da sind, in Stiefeln, kaum frisiert. Sie sind zu entschuldigen ; sie haben uns nicht vermutet. Kommen Sie in Schuhen, und lassen Sie sich frisch frisieren.—So sehen Sie mir gar zu brav, gar zu preussisch aus ! ”

(b) “ Gott würdigt mich, durch diesen unverdienten Tod Die frühe schwere Blutschuld abzubüssen.”

(c) “ Kennst du das Haus ? Auf Säulen ruht sein Dach,  
Es glänzt der Saal, es schimmert das Gemach,  
Und Marmorbilder stehn und sehn mich an :  
Was hat man dir, du armes Kind, gethan ?  
Kennst du es wohl ?

Dahin ! Dahin

Möcht' ich mit dir, o mein Beschützer, ziehn.”

(d) “ Sag an, wo ist dein Kämmerlein ?  
Wo ? wie dein Hochzeitbettchen ? ”—

“ Weit, weit von hier ! . . . Still, kühl und  
klein ! . . .

Sechs Bretter und zwei Brettchen ! ”

(e) “ Möglich, dass der Vater nun  
Die Tyrannei des einen Rings nicht länger  
In seinem Hause dulden wollen.”

(f) “ Sieh da ! Sieh da, Timotheus,  
Die Kraniche des Ibykus.”

Six of the following questions to be attempted.

2. Discuss—"Lessing's 'Minna' belongs to the *comédies sérieuses*. This latter class is suited to the German nature for it presents Teutonic life very well."

3. State briefly the importance of Gottsched to German literature ;

Or—

Review German literature in the early 18th century up till the death of Gottsched.

4. Discuss the following with regard to Goethe's philosophy and life :—

"Nach ewigen, ehrnen,  
Grossen Gesetzen  
Müssen wir alle  
Unseres Daseins  
Kreise vollenden."

Or—

Point out the autobiographical significance of his lyrics.

5. Compare and contrast Goethe and Schiller as ballad-writers.

6. Compare Goethe's "Erlkönig" with Herder's "Erlkönigs Tochter," stating which you prefer, and giving your reasons for this preference.

7. "Meine Maria wird keine weiche Stimmung erregen, es ist meine Absicht nicht ; ich will sie immer als ein physisches Wesen halten, und das Pathetische muss mehr eine allgemeine tiefe Rührung als ein persönlich und individuelles Mitgefühl sein."

How far do you consider Schiller attained this object in the tragedy of "Maria Stuart" ?

Or—

Discuss Carlyle's criticism—"To an Englishman nothing can be less satisfactory than the poet's character of our great Elizabeth."

8. Write a short essay upon Schiller's development, as revealed in his shorter poems.

**German II.—Paper I.**

## 1. Translate into idiomatic English—

(a) “ Ganz anders verhält es sich mit dem Idealisten, der aus sich selbst und aus der blossen Vernunft seine Erkenntnisse und Motive nimmt. Wenn die Natur in ihren einzelnen Wirkungen immer abhängig und beschränkt erscheint, so legt die Vernunft den Charakter der Selbständigkeit und Vollendung gleich in jede einzelne Handlung. Aus sich selbst schöpft sie alles, und auf sich selbst bezieht sie alles. Was durch sie geschieht, geschieht nur um ihrentwillen ; eine absolute Grösse ist jeder Begriff, den sie aufstellt, und jeder Entschluss, den sie bestimmt. Und ebenso zeigt sich auch der Idealist, so weit er diesen Namen mit Recht führt, in seinem Wissen wie in seinem Tun. Nicht mit Erkenntnissen zufrieden, die bloss unter bestimmten Voraussetzungen gültig sind, sucht er bis zu Wahrheiten zu dringen, die nichts mehr voraussetzen und die Voraussetzung von allem andern sind. Ihn befriedigt nur die philosophische Einsicht, welche alles bedingte Wissen auf ein unbedingtes zurückführt und an dem Notwendigen in dem menschlichen Geist alle Erfahrung befestiget ; die Dinge, denen der Realist sein Denken unterwirft, muss er sich, seinem Denkvermögen unterwerfen.”

Schiller.

(b) *Waldlied.*

“ Arm in Arm und Kron' an Krone steht der Eichenwald  
 verschlungen,  
 Heut' hat er bei guter Laune mir sein altes Lied  
 gesungen.  
 Fern am Rande fing ein junges Bäumchen an sich  
 sacht zu wiegen,  
 Und dann ging es immer weiter an ein Sausen, an  
 ein Biegen ;  
 Kam es her in mächt'gem Zuge, schwoll es an zu  
 breiten Wogen,  
 Hoch sich durch die Wipfel wälzend kam die  
 Sturmesflut gezogen.  
 Und nun sang und pff es graulich in den Kronen,  
 in den Lüften,

Und dazwischen knarrt' und dröhnt' es unten in den  
 Wurzelgrüften.  
 Mauchmal schwang die höchste Eiche gellend ihren  
 Schaft alleine,  
 Donnernder erscholl nur immer drauf der Chor vom  
 ganzen Haine !  
 Einer wilden Meeresbrandung hat das schöne Spiel  
 geglichen ;  
 Alles Laub war weisslich schimmernd nach Nordo-  
 sten hingestrichen.  
 Also streicht die alte Geige Pan der Alte laut und  
 leise,  
 Unterrichtend seine Wälder in der alten Welten-  
 weise." Keller.

2. Translate into idiomatic English, locate, and comment upon the following :—

(a) " Gegenstände, die neben einander oder deren Teile neben einander existieren, heissen Körper. Folglich sind Körper mit ihren sichtbaren Eigenschaften die eigentlichen Gegenstände der Malerei.—Gegendstände, die auf einander, oder deren Teile auf einander folgen, heissen überhaupt Handlungen. Folglich sind Handlungen der eigentliche Gegenstand der Poesie."

(b) " Es war einmal ein König,  
 Der hatt einen grossen Floh ;  
 Den liebt er gar nicht wenig,  
 Als wie seinen eignen Sohn.  
 Da rief er seinen Schneider,  
 Der Schneider kam heran :  
 Da, miss dem Junker Kleider  
 Und miss ihm Hosen an !"

(c) " Ihr habt der Dichterin vergönnt, zu nippen  
 An dieses Lebens süss umkränzten Kelch !  
 Zu nippen nur, zu trinken nicht.  
 O seht ! Gehorsam euerm hohen Wink,  
 Setz' ich ihn hin, den süss umkränzten Becher,  
 Und trinke nicht."

- (d) “ Des Nachbars alte Katze  
 Kam öfters zum Besuch ;  
 Wir machten ihr Bückling und Knickse  
 Und Komplimente genug.  
 Wir haben nach ihrem Befinden  
 Besorglich und freundlich gefragt ;  
 Wir haben seitdem dasselbe  
 Mancher alten Katze gesagt.”

3. Translate into German—

“ The word Renaissance indeed is now generally used to denote not merely that revival of classical antiquity which took place in the 15th century, and to which the word was first applied, but a whole complex movement, of which that revival of classical antiquity was but one element or symptom. For us the Renaissance is the name of a many-sided but yet united movement, in which the love of the things of the intellect and the imagination for their own sake, the desire of a more liberal and comely way of conceiving life, make themselves felt, urging those who experience this desire to search out first one, and then another means of intellectual or imaginative enjoyment, and directing them not merely to the discovery of old and forgotten sources of this enjoyment, but to divine new sources of it, new experiences, new subjects of poetry, new forms of art. Of this feeling there was a great outbreak at the end of the 12th and the beginning of the following century. Here and there, under rare and happy conditions, in Pointed architecture, in the doctrines of romantic love, in the poetry of Provence, the rude strength of the middle age turns to sweetness ; and the taste for sweetness generated there becomes the seed of the classical revival in it, prompting it constantly to seek after the springs of perfect sweetness in the Hellenic world.”

Pater.

**German II.**—Paper II.

PART I.

Write an Essay in German upon *one* of the following subjects :—

- (a) Goethe als Uhermensch ;
- (b) Die deutsche Lyrik im neunzehnten Jahrhundert ;
- (c) Das Volkslied in der deutschen Litteratur.

## PART II.

1. Locate and comment upon the following :—

- (a) “ Den Göttern gleich ich nicht ! Zu tief ist es  
geföhlt ;  
Dem Wurme gleich ich, der den Staub durchwöhlt,  
Den, wie er sich im Staube nährend lebt,  
Des Wandrers Tritt vernichtet und begräbt.”
- (b) “ Ich bin der Geist, der stäts verneint ! ”
- (c) “ Man steigt nicht ungestraft vom Göttermahle  
Herunter in den Kreis der Sterblichem.”
- (d) “ Der Endzweck der Wissenschaft ist Wahrheit.  
Wahrheit ist der Seele nothwendig ; und es  
wird Tyrannei, ihr in Befriedigung dieses  
wesentlichen Bedürfnisses den geringsten Zwang  
anzuthun. Der Endzweck der Künste hingegen  
ist Vergnügen ; und das Vergnügen ist ent-  
behrlich. Also darf es allerdings von dem  
Gesetzgeber abhängen, welche Art von Verg-  
nügen, und in welchem Maasse er jede Art  
desselben verstatten will.”
- (e) “ Sie sangen von Marmorbildern,  
Von Gärten, die überm Gestein  
In dämmernden Lauben verwildern,  
Palästen im Mondenschein,  
Wo die Mädchen am Fenster lauschen,  
Wenn der Lauten Klang erwacht,  
Und die Brunnen verschlafen rauschen  
In der prächtigen Sommernacht.”
- (f) “ Ihr Kinder, kommt, kommt schnell herein !  
Das Irrlicht zündet seinen Schein,  
Die Kröte schwillt, die Schlang' im Ried ;  
Jetzt ist's unheimlich draussen sein,  
Der Heidemann zieht ! ”
- (g) “ Den König Wiswamitra,  
Den treibt's ohne Rast und Ruh',  
Er will durch Kampf und Büssung  
Erwerben Wasishtas Kuh.”

**Six of the following questions must be attempted.**

2. Discuss the truth of the following statement :—"The ideas embodied in 'Laokoon' introduced a new principle into æsthetics and exercised considerable influence on Lessing's contemporaries."

3. Apply the following extract from "Faust" to the whole of Goethe's philosophy and life :—"Entbehren sollst du l sollst entbehren."

*Or—*

Criticise—"Goethe's 'Faust' is the glorification of an aspiring nature."

4. Discuss the fitness of the inclusion of the "Walpurgisnacht" in "Faust," or The importance of the scene between Faust and Valentin.

5. Write a short account of romantic poetry in 19th century German literature.

6. Compare and contrast Goethe and Heine as lyrical poets.

7. Write a short critical appreciation of "Sappho" as a modern tragedy on the classical model ;

*Or—*

Compare the "Sappho" of Grillparzer's creation with the real "Sappho" of Greek poetry.

8. "There is, perhaps, no figure in modern literature that embodies the grace and charm of maidenhood as fully and as sweetly as Melitta." Discuss this statement.

9. "The past may be revived only when an imagination, creative and reproductive is called into play ; when into the old bones there is breathed a living soul, so that they arise and once more walk with a strong and firm step." To what extent did Scheffel succeed in giving a practical illustration of this theory in "Ekkehard" ?

*Or—*

Give a short critical appreciation of the character of Praxedis in "Ekkehard," comparing her with any other slave-maidens you know in literature.

**British History I.—Paper I.**

The Three starred questions and not more than Two of the other questions are to be answered.

## \*1. Explain—

(a) In the hundred, as in any other 'gemot,' we ordain that folk-right be pronounced in every suit, and that a term be fixed when it shall be fulfilled. And he who shall break that term, unless it be by his lord's decree, let him make 'bot' with 30 shillings, and on the day fixed fulfil that which he ought to have done before. Edgar, 959-975.

(b) Sciatis me Dei misericordia et communi consilio baronum totius regni Angliæ ejusdem regni coronatum esse. . . . Lagam Edwardi regis vobis reddo cum illis emendationibus quibus pater meus eam emendavit consilio baronum suorum. Henry I, 1100.

(c) Assisa de Armis habendis in Anglia . . . Item nullus juret super legales et liberos homines, qui non habeat xvi. marcas, vel x. marcas in catallo.

(d) Rex vicecomiti Norhamtesirae. Quia cum comitibus, baronibus et ceteris proceribus regni nostri, super remediiis contra pericula quae eidem regno hiis diebus imminere providendum, colloquium habere volumus et tractatum, per quod eis mandavimus quod sint ad nos die Dominica proxima post festum Sancti Martini in hyeme proxima futurum apud Westmonasterium, ad tractandum, ordinandum, et faciendum qualiter sit hujusmodi periculis obviandum; tibi praecipimus firmiter injungentes quod de comitatu praedicto duos milites et de qualibet civitate ejusdem comitatus duos cives, et de quolibet burgo duos burgenses, de discretioribus et ad laborandum potentioribus, sine dilatione eligi, et eos ad nos ad praedictos diem et locum venire facias: ita quod dicti milites plenam et sufficientem potestatem pro se et communitate comitatus praedicti, et dicti cives et burgenses pro se et communitate civitatum et burgorum praedictorum divisim ab ipsis tunc ibidem habeant, ad faciendum quod tunc de communi consilio ordinabitur in praemissis.

2. What are the principal characteristics of early Teutonic and Anglo-Saxon law?



3. Provide a sketch-map of France, and trace out upon it the principal military operations of Edward III's reign. State the reasons for the various lines taken.

4. What light does the career of John Wiclif throw upon the political, religious, and social condition of the England of his day ?

5. Shew how the history of taxation in England prior to the Whig Revolution illustrates the changes which took place in the character of the monarchy.

\*6. Was the religious or the political motive the stronger in urging King and Parliament to civil war ?

\*7. Trace and account for the growth of England's hostility to Spain during the 16th century, and explain the change which took place in the relations between the two countries during the 17th century.

### British History I.—Paper II.

Candidates are to select One only of the Parts A and B, and to answer all the questions in that Part.

#### PART A.

1. Comment upon the following passages :—

(a) We your most humble subjects, daily orators and beadsmen of your clergy of England, having one special trust and confidence in your most excellent wisdom, your princely goodnesse, and fervent zeal to the promotion of God's honour and christian religion, and also in your learning, farr exceeding, in our judgment, the learning of all other Kings and princes that we have reed of; and doughting nothing, but that the same shall still continew and dailey increase in your majesty,

first do offer and promise 'in verbo sacerdotii' here unto your highness, submitting our selfs most humbly to the same, that we will never from henceforth enact, put in ure, promulge, or execute any newe canons or constitution provincially, or any other newe ordinance, provincially or synodall, in our convocations or synode, in tyme comyng, which convocation is,

alway hath byn, and must be assembled onely by your high commandment or writte; only your highness by your royall assent shall lycence us to assemble our convocation, and to make . . . etc.

May 15th 1532.

(b) . . . But if they [sc. a Jury] do, as I have said, pronounce not guilty upon the prisoner, against whom manifest witness is brought in, the prisoner escapeth; but the twelve [are] not only rebuked by the judges, but also threatened of punishment; and many times commanded to appear in the Star-Chamber, or before the Privy Council, for the matter . . .

Sir Thomas Smith.

(c) Forasmuch as now of late years very many of her Majesty's subjects, dwelling within the counties of Cumberland, Northumberland, Westmoreland and the Bishopric of Durham, have been . . . carried out of the same counties or to other places within some of the same counties as prisoners and kept barbarously and cruelly, until they have been redeemed by great ransoms; and where now of late time there have been many incursions, raids, robberies, and burning and spoiling of towns, villages and houses within the said counties, that divers . . . within the said counties . . . have been enforced to pay a certain rate of money, corn, cattle or other consideration, commonly there called blackmail, unto divers inhabiting near the borders, being men of name and allied with divers in those parts who are commonly known to be great robbers, . . . to the end thereby to be by them protected. . . .

43 & 44 Eliz. cap. xiii.

(d) *Commissio specialis pro Camera Stellata in Hibernia.*  
 . . . We have thought meet to appoint that a particular court for the hearing and determination of these detestable enormities . . . shall be holden within our Castle at our City of Dublin in that our realm of Ireland or in such other place where the ordinary term shall be kept in that our realm, and that the same our Court shall be called the Castle Chamber of our said realm of Ireland.

1581.

2. State what you know of (a) the Treason Laws, (b) the classification of felonies, (c) the duties of a sheriff, (d) the Lords-Lieutenant, (e) the constable—during the Tudor period.

3. Expand and criticize as fully as possible Hallam's assertion that 'the avarice of Henry VII, as it rendered his

government unpopular, which had always been penurious, must be deemed a drawback from the wisdom ascribed to him ; though by his good fortune it answered the end of invigorating his power.'

4. Discuss the contributions of Drake to naval science, from the point of view (*a*) of tactics, and (*b*) of strategy.

5. Describe the development during the Tudor period of the English policy of non-intervention in Continental affairs.

How far were the objects of this policy achieved ?

What circumstances during the reign of Queen Elizabeth made further adherence to it impossible?

#### PART B.

1. Comment upon the following passages :—

(*a*) A fourth [' common principle by which ' Charles I's courtiers ' moulded and governed all their particular counsels and actions '], to disaffect the King to Parliaments by slander and false imputations, and by putting him upon other ways of supply, which in show and appearance were fuller of advantage than the ordinary course of subsidies, though in truth they brought more loss than gain both to the King and people, and have caused the great distractions under which we both suffer.

1641.

(*b*) And that the standing forces of this Commonwealth shall be disposed of by the Chief Magistrate, by consent of both Houses of Parliament, sitting the Parliament ; and in the intervals of Parliament, by the Chief Magistrate, by the advice of the Council ; and also that your Highness and successors will be pleased to exercise your Government over these nations by the advice of your Council.

1657.

(*c*) And it is further enacted, that no Parliament henceforth to be assembled shall be dissolved or prorogued within fifty days at least after the time appointed for the meeting thereof, unless it be by assent of His Majesty, his heirs or successors, and of both Houses in Parliament assembled; and that neither the House of Peers nor the House of Commons shall be adjourned within fifty days at least after the meeting thereof, unless it be by the free consent of every the said Houses respectively.

1640-1.

(d) That it is the Right of the Subjects to Petition the King and all Commitments and Prosecutions for such Petitioning are Illegal. 1689.

2. “. . . Cromwell was . . . above all, a great imperial ruler, perhaps the only Englishman who has ever understood in its full sense the word ‘ Empire.’ ”

Egerton: Short History of British Colonial Policy.

“ In regard to colonisation and trade, Cromwell was for the most part content to follow the lines of policy laid down by James I and Charles I. His whole character becomes unintelligible and ceases to be consistent, if he was at heart an Empire-builder.” Cunningham: Growth of English Industry & Commerce.

Which of the above descriptions of Cromwell’s imperial policy do you prefer? Justify your choice by reference to events.

3. Describe the part played by Holland in European affairs during the 17th century.

Account for the failure of the Dutch to maintain their naval supremacy.

4. Macaulay, in writing of the history of England under Charles II, asserts that “ scarcely any rank or profession escaped the infection of the prevailing immorality; but those persons who made politics their business were perhaps the most corrupt part of the corrupt society.” Do the facts of Charles II’s reign bear out Macaulay’s verdict on the politicians of that time?

5. How does the career of Buckingham illustrate the methods and objects of English policy at home and abroad during the early 17th century?

### British History II.—Paper I.

The Three starred questions and not more than Two of the other questions are to be answered.

\*1. Comment fully upon the following passages :—

(a). . . it is expedient to take effectual measures for correcting divers abuses that have long prevailed in the choice of members to serve in the commons house of parliament, to

deprive many inconsiderable places of the right of returning members, to grant such privilege to large, populous and wealthy towns, to increase the number of knights of the shire, to extend the elective franchise to many of his Majesty's subjects who have not hitherto enjoyed the same, and to diminish the expense of elections ; . . .

(b) That such act as shall be passed in the parliament of Ireland previous to the Union to regulate the mode by which the lords spiritual and temporal, and the commons, to serve in the parliament of the united kingdom on the part of Ireland, shall be summoned and returned to the said parliament, shall be considered as forming part of the treaty of union. . . .

(c) Whereas the well government and regulating of printers and printing-presses is matter of public care, and of great concernment, especially considering, that by the general licentiousness of the late times, many evil-disposed persons have been encouraged to print and sell heretical, schismatical, blasphemous, seditious and treasonable books, pamphlets and papers. . . . 1662.

Forasmuch as some ease to scrupulous consciences in the exercise of religion may be an effectual means to unite their Majesties' protestant subjects in interest and affection : 1689.

Whereas by various acts of parliament certain restraints and disabilities are imposed on the Roman Catholic subjects of His Majesty, to which other subjects of His Majesty are not liable : and whereas it is expedient that such restraints and disabilities shall be from henceforth discontinued : 1829.

(d) And be it further enacted, That the oath . . .  
' I A.B. declare, That it is not lawful upon any pretence whatsoever to take arms against the King, and that I do abhor that traitorous position of taking arms by his authority against his person, or against those that are commissioned by him' ; shall not from henceforth be required. . . .

2. Give a short account of constitutional development in Canada from 1760 to 1841. How did constitutional development in Canada affect the governments in other colonies ?

\*3. Discuss Lowell's assertion that ' since the Restoration England has never revised her frame of government as a whole, and hence has felt no need of codifying it.'

4. Illustrate from the history of the British in America the importance of sea-power in building and maintaining the Empire.

\*5. What were the main objects of British foreign policy with respect to European affairs between 1689 and 1793 ? Compare them with the objects aimed at after 1815.

6. Give a brief biography of John Wilkes.

7. What historical associations are attached to the following names ?—(a) St. Peter's Fields, (b) Cintra, (c) Nootka (or St. George's) Sound, (d) Ryswick, (e) Calcutta.

### British History II.—Paper II.

Candidates are to select One only of the Parts, A and B, and to answer All the questions in that Part.

#### PART A.

1. "The governing principle of Hamilton's policy, of Washington, who supported Hamilton, and of the whole Federalist party, who followed him, was to establish a supreme sovereignty." F. S. Oliver: *Life of Alexander Hamilton*.

From the history of the American Colonies, show the origins and the nature of the difficulties in the way of the establishment of this supreme sovereignty.

2. Give as full an account as possible of the circumstances and events which made it possible for Pulteney to make the following speech in the House of Commons in 1746 :—

"Sir,—We have heard a great deal about Parliamentary armies, and about an army continued from year to year. I have always been, sir, and always shall be, against a standing army of any kind. To me it is a terrible thing, whether under that of Parliamentary or any other designation. A standing army is still a standing army, whatever name it is called by. They are a body of men distinct from the body of the people ; they are governed by different laws ; and blind obedience, and an entire submission to the orders of their commanding officers, is their only principle. The nations around us, sir, are always enslaved and have been enslaved by these very means ; by

means of their standing armies they have every one lost their liberties. It is, indeed, impossible that the liberties of the people can be preserved in any country where a numerous standing army is kept up."

3. State what you know of the organization, discipline, and distribution of the British army during the period 1689-1783. How did developments in India and America affect the British military organization ?

4. "Any nation," says Rousseau, "which has, by its position, only the alternative between commerce and war is weak in itself ; it is dependent on its neighbours and events ; it has only a short and precarious existence. It conquers and changes its situation, or it is conquered and reduced to nothing. It can preserve its freedom only by virtue of being small or great."

Apply this statement to the history of the period 1688-1763.

5. After the revolutions of 1399 and 1642 came the reactions of 1460 and 1660. Why was there no effective reaction after the revolution of 1688 ?

#### PART B.

1. How may the career of Warren Hastings be used to illustrate (a) the state of the British constitution during the reign of George III and (b) the advantages and disadvantages of the company method of establishing and maintaining imperial markets and areas of exploitation.

2. Account for the fame of William Pitt the Younger.

3. State what you know of the development and creed of the Radical Party (up to 1832). Did the Reform Bill of 1832 represent a reform or a revolution ?

4. Does the Empire owe more to Nelson or to Wellington ?

5. Explain fully, with reference to the principles at stake and to past history, the case of Ashby *versus* White. What use was made of parliamentary privilege during the period 1689-1832 ?

**Constitutional History.—Paper I.**

1. Distinguish the main tendencies which are to be noted in English constitutional development in the following periods :—800-1000, 1000-1272, 1272-1399, 1399-1437, 1437-1601.

2. How has the conception of law varied from time to time in England ?

3. Give a critical account of the Great Charter. To what extent may it be regarded as a constitutional document ? Estimate its influence.

4. What was meant by parliamentary reform in the 18th century ? How had the demands for parliamentary reform made during the 18th century been met by 1833 ? Upon what principles was reform continued after 1832 ?

5. What statutory additions were made to the British constitution between 1701 and 1829 ? Why were they required ?

**Constitutional History.—Paper II.**

**Questions 1, 2, and 3 must be attempted.**

1. Explain the principles of Imperial control over the Colonial Executive and the Colonial Legislature.

Is such control necessary ?

Describe the work of the Colonial Governor.

2. Give an account of the constitutional events which preceded the grant of Responsible Government in (a) Canada, (b) Australia.

Why has Representative Government generally failed to give permanent satisfaction in the British Colonies ?

Give other examples of its instability.

3. Explain the development of the Upper House in the British Colonies.

Account for the differences which exist in the constitutions of the Upper Houses of the most important Colonial Legislatures.



4. Explain with special reference to their constitutional importance —(a) Scutage, (b) referendum, (c) collective responsibility, (d) Mutiny Act, (e) appropriation of supplies.

5. Account for the legislative activity of Charles II's reign. Why was no serious attempt made to continue the constitutional experiments of the Commonwealth period? Give a brief description of those experiments.

### Economic History.

Six questions and no more are to be answered: Four from Part A and Two from Part B.

#### PART A.

1. Describe the economic organisation of the mediæval town.

2. Give an account of the industrial legislation of the Tudor Period.

Explain the objects of this legislation.

How far were these objects realised during the period?

3. Describe the spread of the Enclosure movement in England.

Was enclosure necessary to progress?

In what ways did it affect the volume of agricultural production in England?

4. Trace the development of banking in England.

Explain the necessity for the development.

5. What were the Taff Vale case and the Osborne Judgment?

How did these affect the legal position of Trade Unionism in England?

What subsequent legislation has dealt with the same problems?

6. Describe the organisation of industry in England as it was about 1750.

In what ways was this organisation proving to be unsatisfactory?

What was the share of mechanical inventions in the change which followed?

## PART B.

1. Comment upon the labour supply of the early settlements in Australia.

How was this affected by the discovery of gold in New South Wales and Victoria ?

Account for the early development in the Australian colonies of an industrial proletariat.

2. Give an historical account of the growth of Australian overseas trade.

In what ways does this illustrate the importance of the carrying trade?

How has Australian overseas trade been affected by government loans ?

3. What is meant by the "natural industries" of a country ?

To what extent have natural industries been developed in Australia ?

How far have Australian industrial policies been the cause and how far the result of the concentration of population in large coastal towns ?

**Systematic Economics.**

1. Writing of the "Evolution of Industry," Professor D. H. Macgregor states—" . . . if we compare the legal or the political aspects of life with the industrial we find standards of a different kind. The point of view is in both cases intensely personal, and the argument of the "long run" is not allowed to exclude personal rights and values."

Is it true that economic science tends to exclude them and so "to increase the separateness of the worker from his employer" ? What scope is given the "human element" in the study of economics ?

2. What does Marshall mean by the following expressions, and what use does he make of them ?—

(a) Joint and derived demands ;

(b) Law of Substitution ;

(c) Standard of Life ;

(d) Quasi-rents.

3. What are the functions of a banker, and what are his relations to his customers ?
4. State and discuss the theory of distribution by marginal productivity.
5. What considerations lend most importance to the distinction between fixed and circulating capital ?
6. Classify the various taxes imposed by the Commonwealth and Queensland Governments, and discuss their incidence.

### Logic I.

1. What contributions to logical theory were made by Socrates, Plato, and Aristotle respectively ?
2. Briefly discuss—
  - (i) The distinction between the logical and the psychological standpoints ;
  - (ii) Whether Logic is a science or an art ;
  - (iii) The import of Conditionals and their relation to Categoricals ;
  - (iv) The logical treatment of Indefinite Propositions.
3. Explain the various meanings of *Intension*. In what sense do the following terms possess intension—"Steamship," "Queen Elizabeth," "John Smith" ?
4. Critically examine Creighton's view that "Division is the process of defining a term from the point of view of extension." What practical difficulties may attend any particular case of logical Division ?
5. Define *Conversion*. Shew by diagrams that O yields no converse.
6. What requirements are imposed on Thought by the principle of Self-consistency ? Deduce clearly from the principle the syllogistic rules (a) against two particular premises, (b) that if one premise is particular the conclusion must be particular.
7. What is a Dilemma ? How would you combat a dilemma advanced by an opponent ?
8. Discuss, with concrete examples, the fallacies known as "*Idola Fori*," "*Ignoratio Elenchi*," and "*Composition*."

9. Reduce to technical form, and comment on the validity of, the following arguments :—

- (i) Pipchin's Popular Pills are a certain cure for rheumatism, because, after taking several boxes of them, both Mrs. J and Mr. X were completely cured.
- (ii) K and Q are both equal to A ; therefore, K is equal to Q.
- (iii) She : Wisdom and handsome appearance never go together.  
He : Do you consider me wise?  
She : No, certainly not.  
He : You flatter me.
- (iv) He obviously had no case, for he soon lost his temper with his opponent.

### Logic II.

1. Examine Mill's attempt to shew that there is no real inference within the syllogistic process.

2. Consider the various definitions of Induction offered in Mill and Venn.

3. Give a critical review of the Method of Residues, as presented by Mill. Illustrate your answer concretely.

4. "The function of hypothesis is one which must be reckoned absolutely indispensable in science. . . . Without such assumptions, science could never have attained its present state . . . nearly everything which is now theory was once hypothesis."

Discuss concisely.

5. "Observation without experiment, supposing no aid from deduction, can ascertain sequences and co-existences, but cannot prove causation." Discuss.

6. Tersely consider the various meanings which have been given to the phrase "the uniformity of Nature." Which meaning do you accept ?

7. Can the doctrine of the Plurality of Causes, as held by Mill and Venn, be accepted as final ?

8. Examine the extent and the limitations of the scientific explanation of Nature.

**Logic.***For Science Students only.*

TIME ALLOWED—TWO HOURS.

1. What ground is there for belief in the uniformity of nature ?
2. Criticise the view that scientific facts are ultimately composed of sensations. How far are scientific facts and the facts of ordinary life identical ?
3. To what extent is the method of investigation adopted by Biology (or Geology or Chemistry) identical with the method of Physics ?
4. Illustrate from your own studies the meaning of the assertion that "Science is an organized endeavour to escape from the contingency and uncertainty of empirical observation."

**Psychology I.**

1. How do special sensations differ from organic sensations ? Discuss the part played by each in determining the meaning an individual gives his world.
2. Give some account of the "interactionist" and of the "parallelist" hypotheses. How far is each theory reconcilable with the psychological point of view ?
3. Define the terms *mind, self, I, thought, habit, memory*, with reference to some present moment of consciousness.
4. Discuss the respective values of associative recall and understanding in a course of attentive thinking.
5. What part is played by imitation in the development of instinct—
  - (a) In the case of animals ;
  - (b) In the case of man ?
6. "The external world as we now apprehend it consists (1) in a multiplicity of distinct items connected, (2) in the unity of a single system."

What justification is there for supposing that sensations are the "primary data of consciousness"? In your answer make some reference to the historic theories of psychology.

7. Discuss Stout's assertion that "distinct objects within the field of consciousness stand out in relief against a hazy and featureless background."

### Psychology II.

1. "The stream of consciousness consists of successive trains of mental activity each having its own internal continuity of interest, but relatively disconnected with each other" (*Stout*). Explain and criticize this assertion.

2. What is the psychological defect of the doctrine that man always acts so as to secure his own pleasure?

3. Criticize the doctrine that external reality may be completely described in terms of sensations. How far did the sensationist analysis of consciousness justify Locke's discussion of "co-existing" qualities?

4. Give some account of James's analysis of personal identity.

5. What physiological justification is there of the assertion that "the function of consciousness is to secure and maintain an equilibrium between the organism and its environment." What qualifications of the statement would your study of psychology lead you to suggest?

6. Shew that James's theory of the will is logically consequent on his analysis of consciousness. What evidence is there for the conclusion that James's theory of psychology is definitely sensationistic?

7. How far is James's description of attention and discrimination reconcilable with his theory of the stream of consciousness?

8. What contribution did Kant make to the theory of psychology?

**Ethics.**

1. Trace the interdependence of Utilitarian ethical theories and psychological sensationism.

2. Discuss Green's doctrine of the part played by the self in consciousness with reference to—

(a) Knowledge,

(b) Conduct.

3. "An emotion is the less the more its cause is seen to be necessary." Compare this doctrine with Green's conception of the moral ideal.

4. In the case of a conflict of desire, is it correct to say that "the strongest desire wins"? If not strength of desire, then what determines the issue?

5. "Psychology is concerned to maintain that the human consciousness resembles that of the higher animals; ethics asserts that it does not." Elaborate this assertion. Does it imply antagonism between psychology and ethics? What is Green's attitude to the question?

6. "A morality which prescribes no rules of conduct is non-existent, a morality which adheres to rules is a dead conventionality; a judicious mean between regulation and non-regulation would appear to be the ideal for the individual and for the State." Criticise this assertion.

7. "Nature has placed man under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do. On the one hand the standard of right and wrong, on the other the chain of causes and effects, are fastened to their throne. They govern us in all we say, in all we think: every effort we make to throw off our subjection will but serve to demonstrate and confirm it." Analyse and discuss this argument.

**Metaphysics.**

1 and 2. Explain Descartes' logical passage from the "cogito" to the truth of scientific knowledge. Compare the Cartesian argument with Kant's method of dealing with the same problem.

3. Give some account of Spinoza's theory of knowledge. Compare his views with those of Leibniz and Lotze.

4. What significance attaches to the word "idea" in the philosophical writings of Locke, Berkeley, Hume, Herbart, and Kant?

5. To what extent did Kant accept Hume's description of the data which go to make up the world of our knowledge?

**History of Education.**

**Answer Six Questions, but these adequately.**

1. Examine *either* the value of the old Chinese Education, as judged from its actual results, *or* the merits and demerits of the Chinese Government's attitude to the school.

2. Discuss the assertion that the old Athenian education was conspicuously successful in reconciling the claims of free personality with those of institutional life.

3. Elaborate the viewpoints from which Aristotle passed judgment on the Spartan system of education. What permanent value do these viewpoints possess?

4. Give an outline account of the educational activity in Alexandria from 300 B.C. to the capture of the city by the Arabs.

5. Briefly shew the educational importance of (i) Charlemagne, (ii) Manuel Chrysoloras, (iii) Barzizza, (iv) Erasmus, (v) Melancthon.

6. Critically consider the methods of training employed by the Society of Jesus in its schools.



7. Outline the educational philosophy *either* of Rousseau *or* of Froebel.
8. (i) Pestalozzi made the mother's work basic in education. Why ?  
 (ii) Shew the value and importance of his psychological method of instruction.
9. Examine—  
 (a) Spencer's aim in education ;  
 (b) His suggested method of moral training.
10. What attention was given to primary education on the European continent between 1350-1850 ?

### Theory of Education.

Answer Six Questions, one at least from Questions 8 and 9.

1. "Instruction is the least part of education" (*Locke*). Is *Locke's* dictum justified ? Consider in your answer what other "parts of education" there are, and their relative importance.
2. Of what value to the teacher is a study of the great brain ?
3. Give some account of the child's instinctive equipment, and indicate how the teacher should handle it.
4. Distinguish between various kinds of Attention, and shew what light the distinction throws on the contention that school-work should be motivated by play.
5. Trace the development by which the word becomes the central element in our thinking. What conclusions would you draw as to methods of instruction ?
6. Discuss the "formative stage" of child-life, and make clear its importance for the subsequent period.
7. Give, with concrete illustrations, an account of the Deductive Development Lesson.

8. "Natural inequality is a fact with which we have to reckon" (*McCunn*). Consider *McCunn's* treatment of this topic.

9. Tersely discuss *one* of the following :—

- (a) To what extent can the school rely upon Precept as an instrument of moral training? What type of man should moral training aim at producing?
- (b) Can the shortcomings of the morality of Precept be met by following the casuist?

### Pure Mathematics I.

Not more than Nine questions to be attempted.

Squared paper and tables to be provided.

1. If in any determinant of the third order the elements of any row be the same multiples of the corresponding elements of any other row, then the determinant is equal to zero. Prove this.

Solve by determinants—

$$2x - y + z = 1;$$

$$x - 3z + 4 = 0;$$

$$5x + y - 2z = 2.$$

2. In any triangle ABC prove that

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} = 2R = \frac{abc}{2S}$$

and also  $S = \frac{1}{4}(a^2 \sin 2B + b^2 \sin 2A)$  where R is the circum-radius and S the area of the triangle.

3. Solve the triangle for which  $b = 1124$ ,  $c = 846$ ,  $A = 54^\circ 40'$ .

4. Prove that in a trihedral angle the sum of any two face angles is greater than the third.

OA, OB, OC are three straight lines mutually perpendicular, and OD is any line through O and within the trihedral

angle formed by these lines. Prove that the sum of the angles AOD, BOD, COD is greater than

$$\frac{3\pi}{4} \text{ and less than } \frac{3\pi}{2}.$$

5. Find the equation to a straight line in terms of the perpendicular to it from the origin and the angle this perpendicular makes with the axis of  $x$ . Deduce an expression for the length of the perpendicular from the origin to  $ax + by + c = 0$ .

Find the length of the perpendicular from the point (2, 1) to the straight line passing through (1, -1) so as to be equally inclined to the axes of co-ordinates.

6. Find the equation to the tangent at the point ( $x^1y^1$ ) to the circle  $x^2 + y^2 = a^2$ .

Find the point of contact of that tangent to the circle  $x^2 + y^2 = 25$  which cuts the axes of co-ordinates in points A and B such that the area of triangle AOB is equal to 50 units.

7. Explain the meaning of the terms "function," "limit," and give examples in illustration of your answer.

Find, *from first principles*, the derivatives of  $\tan x$   $\frac{\sin x}{x}$ .

8. Prove the rule for differentiating a function of a function

Differentiate—

$$\frac{\tan^{-1} x}{x^2 + 1}, \quad x^2 \cos 4x - 5 \tan 4x.$$

$$x^2 \log_{10} x.$$

9. Integrate—

$$3x - \operatorname{cosec}^2 x, \quad 4 + \cos^2 x$$

$$x\sqrt{1-x} \quad \frac{x+1}{\sqrt{1-x^2}}$$

10. Explain the method for resolving a fraction into partial fractions and apply it to integrate

$$\frac{4 - 3x}{x^2 - 4x + 3}, \quad \frac{x^3}{x^3 - 1}$$

11. Explain carefully what you understand by "the area under a curve."

From the definition of a definite integral find the value of

$$\int_1^3 x^2 \cdot dx$$

### Pure Mathematics II.

1. If  $y = f(z)$  and  $z = F(x)$ , prove that

$$\frac{dy}{dx} = \frac{dy}{dz} \frac{dz}{dx}.$$

Differentiate

$$e^{x \tan x}; x^{-\frac{1}{2}} \sin x; \tan^{-1}(x \log x).$$

2. A rod has one end A attached to a point on the circumference of a circle and passes through a fixed point B in the plane of the circle. Show that when the circle rotates about its centre with uniform angular velocity the length of the portion of the rod between A and B increases at a rate proportional to the perpendicular on AB from the centre of the circle.

3. Prove that

$$\int y dx = \int y \frac{dx}{dt} dt.$$

where  $y$  is expressed as a function of  $x$  in the first integral and as a function of  $t$  in the second.

Integrate

$$(2 + 2x + x^2)^{\frac{1}{2}}; \frac{x}{(2 + 2x + x^2)^{\frac{1}{2}}}; x^3 e^{x^2}.$$

4. A wedge is cut out of a solid sphere of radius  $a$  by two planes intersecting at an angle  $\alpha$  in a diameter of the sphere. Find the mass centre of the wedge.

5. Shew that the equation in  $k$ ,

$$\frac{x^2}{a^2 + k} + \frac{y^2}{b^2 + k} + \frac{z^2}{c^2 + k} = 1$$

has three real roots,  $\lambda, \mu, \nu$ .

Find  $x$  in terms of  $\lambda, \mu, \nu$ .

Find also  $\frac{\partial x}{\partial \lambda}$ .

6. Shew that with certain continuity conditions

$$f(x) = f(0) + x f_1(0) + \frac{x^2}{2!} f_2(0) + \frac{x^3}{3!} f_3(\theta x)$$

where  $f_r(x)$  denotes the  $r$ th derived function of  $f(x)$  and  $0 < \theta < 1$ .

Shew that, for small values of  $x$ ,  $\tan^{-1} x = x - \frac{1}{3} x^3$  approximately.

7. Explain Newton's method of measuring curvature.

Shew that the radius of curvature of the curve

$$r = (a + b \cos \theta)$$

at its point of intersection with the line  $\theta = 0$  is  $(a + b)^2/2b$ .

8. Solve the equations

$$(1) \quad x \frac{dy}{dx} + 2y = \log x.$$

$$(2) \quad \frac{d^2y}{dx^2} + \frac{dy}{dx} - 2y = x.$$

$$(3) \quad \frac{\partial^2 y}{\partial t^2} = a^2 \frac{\partial^2 y}{\partial x^2}.$$

9. Find a solution in series of the equation

$$\frac{d}{dx} \left( x \frac{dy}{dx} \right) = y.$$

### Mathematics.

*For Third Year Engineering Students—Civil and Mechanical and Electrical.*

1. Define the polar triangle of a given spherical triangle. Prove the angles and sides of the polar triangle are supplementary to the corresponding sides and angles of the original triangle. Explain the importance of this fact in establishing formulæ for the solution of spherical triangles.

2. Establish the formulæ giving the cosine of a side of a spherical triangle in terms of the other two sides and their included angle.

Derive a formula, suitable for logarithmic calculation, for finding an angle of a triangle of which three sides are known.

3. Find an expression for the area of a spherical triangle in terms of the radius of the sphere and the spherical excess.

M and N are midpoints of the sides AB, AC of a triangle. Shew that the perpendicular from B on MN makes with BC an angle equal to half the sum of the angles of the triangle.

4. Define the "declination" of a celestial body. Find the direction of the shadow of a flagstaff at 4 p.m. apparent solar time at a place in south latitude  $\phi$ , the south declination of the sun being  $\delta$ .

5. Find the mean solar time of upper transit at Brisbane of  $\alpha$  Canis Majoris (Sirius) on February 10th of the year for which you have a nautical almanac.

(R.A. of Sirius between 6 and 7 hours.)

Find also the altitude of the star at transit.

6. Explain a method of determining latitude by observations of two stars.

Find the best azimuths of the stars for the purposes of the observation.

7. Define "Equation of Time."

Investigate the part of the equation of time that arises from the sun's motion being out of the equator.

8. Give an account of some method of determining longitude.

### Applied Mathematics I.

Nine questions only to be attempted.

1. Shew that the motion of a simple pendulum is approximately simple harmonic for small amplitudes, and find an expression for the periodic time.

A plate of metal, of mass 10 lb., and movable about an axis at right angles to its plane, makes a complete oscillation in 2 seconds. Find its moment of inertia about the axis of suspension.

2. A particle starts from rest at A and moves in a straight line with constant acceleration  $f$ . T seconds later a second body starts from A and moves with uniform velocity  $u$  in the

same straight line. Prove that the second body overtakes the first if  $u > 2f$ . T, and shew that in this case the first overtakes the second again.

3. Shew that a particle moving with uniform speed  $v$  in a circle of radius  $r$  is subject to an acceleration  $\frac{v^2}{r}$  towards the centre of the circle.

At what angle should a motor racing track be banked if it is 300 yards in diameter and the motors are expected to go at about 60 miles per hour ?

4. Explain the term "limiting friction." What horizontal force will just support a mass of 10 lb. on a rough plane of inclination  $30^\circ$  to the horizontal, if the coefficient of friction be .24 ?

5. A door 3 ft. wide weighs 100 lb. What constant force would have to be applied 30 in. from the line of hinges, and always acting perpendicularly to the door, to turn it through a right angle in 2 seconds from rest ? Find also the kinetic energy of the door at the end of the motion.

6. Give a demonstration of Archimedes' principle, and explain how you would verify it experimentally.

A piece of mahogany weighs 375 gr. in air. A piece of brass weighing 380 gr. in water is attached to it, and the two in water weigh 300 gr. Find the specific gravity of the mahogany.

7. One end of a horizontal pipe of rectangular section 6 ft. by 4 ft. is cut off obliquely at an angle of  $60^\circ$  to the horizon, and closed by a door hinged to the top edge of this oblique section. Find the least weight of the door that it may remain closed when the pipe is full of water.

8. Find the equation to the path of a projectile, and deduce an expression for the range on a horizontal plane.

If an error  $\delta\alpha$  be made in sighting the gun shew that the consequent error in the horizontal range is  $2R\cot\alpha.\delta\alpha$  where  $R$  is the range for elevation  $\alpha$ .

9. Explain the principles applied in solving problems in impact. A bullet of mass 1 oz. is fired horizontally into a

piece of wood of mass 10 lb. which is suspended by strings so as to swing freely. The wood rises through a vertical height of 4 in. What was the velocity of the bullet ?

10. Define "energy," "power."

Find the h.p. transmitted to a shaft by a band which travels at rate of 44 ft. per second round a pulley which is firmly keyed to the shaft, the tensions of the two portions of the band being 400 and 300 lb. weight respectively.

11. Enunciate and explain Newton's laws of motion, and state the grounds of your belief in them. Give an account of the general line of argument followed by Newton in "explaining" the motion of the moon round the earth.

### Applied Mathematics II.

Eight questions only to be attempted.

1. Determine the shape of the free surface of a liquid rotating in relative equilibrium about a vertical axis.

A cylindrical vessel is full of liquid and is provided with a lid containing a concentric circular opening of radius half that of the cylinder. The whole is now set into motion about the axis of the vessel. Find the amount of liquid which overflows.

2. Explain the meaning of the term "centre of pressure" on a plane area, and find its position, *from first principles*, in the case of a triangle with its base in the free surface of a liquid. (Neglect atmospheric pressure.)

3. Give a demonstration of the principle of work, and develop a criterion for determining the stability or otherwise of the positions of equilibrium indicated by the principle.

A square frame ABCD is made of 4 equal uniform rods loosely jointed at their ends. The frame is suspended from some fixed support at the point A, and is kept in shape by a light rod joining B and D. Find the action in this rod.

4. Prove the formula  $\frac{dM}{dx} = -F$  for a uniformly loaded beam.

A uniform beam of length 50 ft. and weighing 4 lb. per linear foot is supported at each end and has a concentrated



load of 40 lb. placed at a point 10 ft. from one end. Find the shear and bending moment at the centre of the beam, and draw the shear and bending moment diagrams.

5. State the "laws of friction" and describe any experiments which suggest them.

A uniform heavy rod is in equilibrium in a rough spherical cup, and the length of the rod subtends a right angle at the centre of the sphere. Find the greatest angle the rod can make with the horizon in terms of the angle of friction.

6. Define "centre of mass" and state some of its mechanical properties.

Find the centre of mass of a uniform solid hemisphere.

7. Enunciate the principles applied in solving problems in impact, and describe experiments which suggest them.

A shell travelling with given velocity breaks into two fragments, one twice as heavy as the other. If the explosion adds an amount of kinetic energy equal to that just before the explosion, and if the larger piece travels immediately after the explosion in a direction inclined at  $45^\circ$  to the previous direction of motion, find its velocity and also the velocity and direction of motion of the smaller piece.

8. Give the complete theory of the rigid pendulum.

An elliptic plate, of mass 10 lb. and semi-axes 18 in. and 12 in. respectively, is pivoted at one end of the major axis so as to be free to rotate about an axis perpendicular to the plane of the plate. The plate is slightly disturbed from the position of unstable equilibrium. Find the angular velocity and action on the pivot when the plate is passing through its lowest position.

9. What is meant by a "damped oscillation"? Give examples.

A mass of  $\frac{1}{2}$  lb. is supported by a spring which stretches 1 ft. when supporting 1 lb. If the air resistance is proportional to the speed and is .05 lb. weight when the speed is 1 ft. per second, find the equation of motion and the displacement at any time.

10. Find the proper form for the cable of a uniformly loaded suspension bridge, and give a simple expression for the tension at any point in the cable.

**FACULTY OF SCIENCE.****Pure Mathematics ; Applied Mathematics.***See under FACULTY OF ARTS.***Biology I.—Paper I.**

TIME ALLOWED—TWO HOURS.

Illustrate your answers by means of sketches.

1. Write a concise account of the Rhizopoda.
2. Compare and contrast the Zoantharia and Alcyonaria.
3. Give an account of the structure of the corona in the Echinoidea.
4. Compare the reproductive system of a liver-fluke (*Fasciola hepatica*) with that of a cestode (*Tænia*).
5. Homologise the thoracic appendages of *Periplaneta*, a scorpion, and a crayfish.
6. Give a concise account of the Cephalopoda.
7. Write short notes on each of the following :—(a) Sporogony; (b) choanocyte; (c) arthrobranch; (d) pronephros; (e) prosencephalon.

**Biology I.—Paper II.**

TIME ALLOWED—TWO HOURS.

Not more than Six questions to be attempted.

Illustrate your answers by means of sketches.

1. State what you know of the development of the amnion and allantois.
2. Give a general description of the skull and branchial arches of an Elasmobranch.
3. Compare and contrast the salient features of plants and animals.
4. Write a concise essay on the structure, reproduction, and relationships of the Zygomycetes.
5. State what you know of the Lycopodineæ.
6. Describe the structures seen in a transverse section of a foliage leaf of *Pinus*. What is the function of each tissue present ?

7. Write concise notes on each of the following :—(a) Diatomin ; (b) haustoria ; (c) ligule ; (d) synergidæ ; (e) planogamete ; (f) trichogyne.

8. What is the rôle of carbon in vegetable metabolism ?

**Biology II. and III.—Paper I.**

**Not more than Eight questions to be attempted.**

**Illustrate your answers by means of sketches.**

1. Discuss the affinities of the Hemichordata.
2. Compare the life cycle of *Salpa* with that of a simple Ascidian.
3. Compare and contrast the pharyngeal and atrial regions of a Cephalochordate and a Urochordate.
4. State what you know of the development and homologies of the thymus and thyroid.
5. Give a general account of the distribution of the cranial nerves in a Vertebrate—*e.g.*, in an Elasmobranch.
6. Trace the development and evolution of an avian or mammalian heart.
7. Discuss the fate of the mesonephros and its duct in the various classes of vertebrates.
8. What are the chief characteristics of the Cyclostomi ?
9. What are the distinctive features of the Holocephali ?

**Biology II. and III.—Paper II.**

**Not more than Eight questions to be attempted.**

**Illustrate your answers by means of sketches.**

1. Give a general description of the skull and visceral arches in the Teleostei.
2. Discuss the affinities of the Dipnoi.
3. Write an account of the Urodela. How may they be classified ?
4. Give a concise account of the Theromorpha, and discuss the affinities of the group.
5. Compare and contrast concisely the Chelonia and Crocodilia.

6. Describe the respiratory system of a bird.
7. Trace the evolution of the Equidæ.
8. Discuss the affinities of the Monotremata
9. What are the main characters of the Edentata ?
10. Write a concise account of the ecology of an "ocean rocky reef" with which you are familiar.

### Chemistry I.

**Answer Eight questions.**

**All Candidates must attempt Question 1.**

**Merit Candidates must also choose at least Three questions from Part B.**

#### A.

1. Discuss the occurrence of isomerism amongst the hydrocarbon and mono-halogen compounds of the methane series ;

*Or—*

Describe the preparation and properties of some of the more important compounds derived from ethyl alcohol.

2. Give an account of the preparation and properties of the potassium salts of the oxy-acids of chlorine.

3. Give an account of the chemistry of the more important compounds of aluminium, showing how their preparation and properties are associated with the nature of the oxide.

4. Explain clearly what you understand by the following:—  
Gaseous diffusion, gram-molecular volume, solubility product, electrochemical (or hydrogen) equivalent.

5. Discuss *four* of the following reactions :—

- (a) Bromine on sulphuretted hydrogen ;
- (b) Chlorine dioxide on a solution of sodium hydroxide;
- (c) Hydrochloric acid on magnetic oxide of iron,  
 $\text{Fe}_3\text{O}_4$  ;
- (d) Iodine on nitric acid ;
- (e) Sodium hydroxide on zinc ;
- (f) Hydrochloric acid on potassium dichromate.

6. Discuss fully the theory of the separation of arsenic sulphide from copper sulphide.

7. A eudiometer contains 15 c.c. of ammonia; after sparking the volume is found to have increased to 29.95 c.c.; 50 c.c. of oxygen are then added and the mixture exploded. The volume after the explosion is found to be 46.2 c.c. Assuming that the temperature and pressure remained constant throughout the experiment, what inference concerning the composition of ammonia would you draw from these figures?

By what other means might one obtain an insight into the composition of this gas?

8. How may the cuprous salts be derived from the cupric salts? Briefly compare the properties of the cuprous salts with the corresponding silver salts.

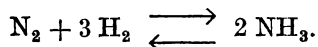
9. Describe fully any one suitable method of preparing sodium carbonate from sodium chloride, and briefly indicate the main points of any second method you are acquainted with.

#### B.

10. Explain fully what you understand by "complex salt."

A solution of copper and cadmium chlorides is treated with an excess of potassium cyanide, and sulphuretted hydrogen passed through. Account for the precipitation of cadmium sulphide and the non-precipitation of copper sulphide.

11. Explain clearly what is meant by the term "law of mass action," illustrating your answer by reference to the equilibrium,



12. Discuss fully the steps necessary for the determination of the atomic weight of a typical non-metal.

13. Give a comparative account of the chief series of compounds derived from chromium and manganese.

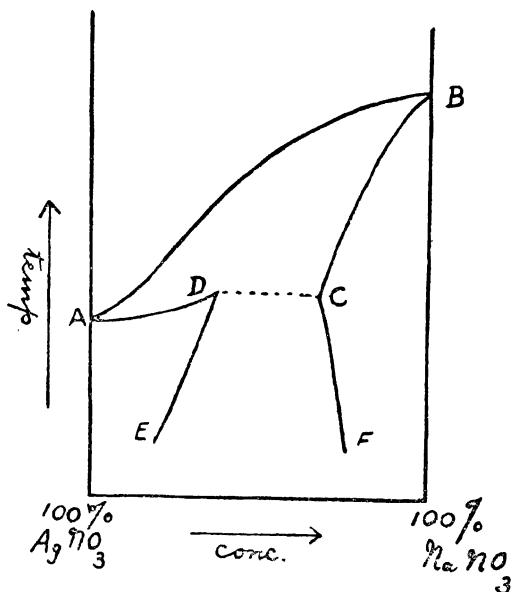
## Chemistry II.—Paper I.

## PHYSICAL.

Answer Six questions, not more than Two being chosen from Part A.

A.

1. Interpret the following diagram, explaining fully the significance of every point, line, and area in the diagram :—



2. Discuss the application of the phase rule to the investigation of the equilibria existing between any salt and water vapour, the salt being capable of forming a series of hydrated compounds.

3. Discuss the solubility of gases in solids.

B.

4. What do you understand by "migration or transport number" ?

Explain the use that may be made of transport experiments to determine the constitution of solutions.

5. Deduce the Ostwald Dilution formula for weak electrolytes, and discuss the significance of the dissociation constant obtained in this equation.

How may the dissociation constant of such an acid as acetic acid be determined in practice?

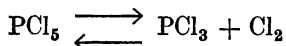
6. Discuss the theory of any typical concentration cell.

7. Discuss the effect of adding sodium acetate to a solution of acetic acid.

8. Explain in what way the specific heat of a gas at constant pressure differs from that at constant volume.

How has the ratio  $C_p/C_v$  been used to obtain an insight into the constitution of the molecule?

9. Discuss the effect of adding chlorine to the system



(a) At constant volume ;

(b) At constant pressure.

## Chemistry II.—Paper II.

### INORGANIC.

TIME ALLOWED—TWO HOURS.

Answer Five questions.

1. *Either*—(a) Compare the properties of the compounds of Group IVA (titanium-thorium group) with those of Group IVB (carbon-lead group) ;

*Or*—(b) Give a comparative account of the properties of the oxides and derived compounds of molybdenum, tungsten, and uranium.

2. Give a comparative account of oxygen and sulphur compounds from the point of view of acid formation.

3. Describe methods that have been adopted to examine and determine the nature of double salts in solution.

4. Discuss the statement that, when an element forms compounds where a valence below its maximum is exhibited, the properties of such compounds resemble those of similar

compounds of elements of other groups showing the same valence, whether such valence is the maximum for those elements or not.

5. Give a comparative account of the chemistry of the compounds of zinc, cadmium, and mercury.

6. Write an account of the chemistry of the compounds of aluminium, and show how their properties may be correlated with the position of the element in the periodic system of classification.

7. Explain the following statements referring to laboratory procedure :—

- (a) If iron and vanadium are present in a mixture they will be thrown out together in the ammonia precipitation of Group IIIA.
- (b) A mixture of iron and chromium hydroxides may be separated by treating them in water with sodium peroxide.
- (c) A solution of zinc and manganese salts may be separated by the addition of caustic soda.

### Chemistry II.—Paper III.

#### ORGANIC.

TIME ALLOWED—TWO HOURS.

Answer Five questions.

1. Describe, with brief experimental detail, some method for converting benzene into benzoic acid.

Explain the reactions involved.

2. How may acid chlorides be prepared from organic acids? Give an account of the properties and reactions of the acid chlorides.

3. How may amino-acetic acid be prepared? Give an account of its properties, and compare them with those of acetic acid. What are the general characteristics of the amino acids?



4. Write what you know of the properties and structure of naphthalene.

Describe the properties of three simple substitution derivatives of naphthalene.

5. How is aldehyde prepared from ethyl alcohol? Give an account of its properties and reactions.

Describe the more important general reactions of the aldehydes.

6. Describe the general method for the preparation of aromatic (benzenoid) nitro-compounds.

What are the general properties and reactions of this class of substance?

What is the effect of introducing a nitro group into the following compounds?—

- (a) Phenol;
- (b) Benzoic acid;
- (c) Aniline.

7. Write a brief note on each of the following:—

- (a) Tartaric acid;
- (b) Osazones;
- (c) Lactic acid;
- (d) Urea.

### Chemistry III.—Paper I.

#### PHYSICAL AND INORGANIC.

Not more than Six questions to be attempted, of which Three must be chosen from each part.

##### A.

1. Discuss the methods used to determine the formulæ of the mercurous salts.

2. Discuss the copper-ammonia compounds.

3. Discuss the solubility of metals in acids.

4. Discuss the solubility of mercuric iodide in solutions containing potassium iodide.

5. Discuss the basic and acidic behaviour of iodine.

## B.

6. What explanations have been put forward to account for the colour changes in solutions of copper or cobalt salts ?
7. Give an account of the colloids.
8. Show how the affinity between hydrogen and oxygen may be measured.
9. Discuss the theory of the hydrogen electrode, and describe how it may be used for the determination of minute concentrations of hydrogen ion.

## Chemistry III.—Paper II.

## ORGANIC.

Answer Seven questions.

Candidates taking Chemistry as major subject must select from Section A; those taking it as a minor subject may select from Section B.

## A.

1. Write a brief account of the natural and synthetic glucosides, and show how their properties afford an indication of the structure of cane sugar.
2. Describe how the structure of some one alkaloid has been determined.
3. Give an account of the conversion of pinene into camphor.
4. Write an account of the synthesis and properties of methyl orange.  
To what class of compound does methyl orange belong ?  
What are the general characteristics of this class of compound ?
5. Show how uric acid may be converted into—
  - (a) Caffeine ;
  - (b) Xanthine ;
  - (c) Purine.

Give an account of the properties of these *four* substances.

6. Write an account of aceto-acetic ester under the headings of—

- (a) Formation ;
- (b) Structure ;
- (c) Reactions ;
- (d) Use in organic synthesis.

7. Write an account of the polypeptides.

8. Write a brief account of the stereochemistry of nitrogen.

9. Describe the methods used to fix dyestuffs on textile fabrics, and discuss the theories put forward to explain the fixation.

#### B.

10. Write a brief account of the nature of enzymes, and discuss the suggested mechanism of enzyme action, indicating what light optical studies have thrown on the problem.

11. Discuss the value and significance of the following analytical determinations :—

- (a) Percentage of methoxyl groups ;
- (b) Freezing point of milk ;
- (c) Iodine value of an oil ;
- (d) Melting point of an osazone.

12. Write an account of the more important products of protein hydrolysis, and discuss the results of feeding experiments with these products.

What conclusions have been reached as to the nature of the digestion and assimilation of proteins by animals ?

### Chemistry III.—Paper III.

#### APPLIED CHEMISTRY.

##### Answer Seven questions.

1. What information can be obtained from the following analyses :—

- (a) "Volatile matter" of coal ;
- (b) "Insoluble matter" of cement ;
- (c) "Iodine value" of an oil.

2. Give an account of the composition, properties, and structure of the various forms of cast iron.

What is the nature of malleable cast iron ?

3. Give an account of the various refractory materials used for lining furnaces for chemical and metallurgical operations.

4. Write an account of the products of the destructive distillation of wood, and of the important substances produced from these products.

5. Give an account of the commercial sources of ammonia, making reference to modern synthetic production.

6. Discuss the Leblanc, ammonia soda, and electrolytic processes for the commercial production of alkali.

7. Give an account of the products of the destructive distillation of coal and shale, with special reference to the effect of temperature on the nature and yield of products.

8. Discuss the nature, value, and uses of the by-products obtained in the following industries :—

(a) Sugar-refining ;

(b) Soap-making ;

(c) Steel production by the basic process.

### **Chemistry III.—Paper IV.**

*For Geology Students.*

TIME ALLOWED—TWO HOURS.

**Answer Five questions.**

1. Discuss the occurrence of lead in radio-active minerals.

2. Describe the wet process for the manufacture of cement.

What is the nature of cement ?

What is the accepted explanation of the setting of cement?

3. Write what you know of the impurities likely to occur in natural waters.

4. Discuss the natural decomposition of potash-bearing rocks. What methods have been proposed to recover the potash from such rocks ?

Discuss the question of potash supply.

5. Write an account of the manufacture of steel from iron ores. Show how and where the impurities likely to be found in steel are introduced, and how they may be avoided or eliminated ?

6. Discuss the structure of the simpler naturally occurring silicates, and show how their structure may be connected with that of silicic acid.

### Chemistry.

*For Third Year Engineering Students—Civil and Mechanical and Electrical.*

TIME ALLOWED—TWO HOURS.

Answer Five questions.

1. Write what you know of the composition, properties, and structure of the various forms of cast iron.

2. Write what you know of the composition of cement. What is the significance of an analysis showing a large amount of "insoluble matter" ?

3. What information can you gain from the following "gas analyses" ?—

(a) Flue gas ;

(b) Coal gas ;

(c) Producer gas.

Explain the difference between "net" and "gross" calorific value of a gaseous fuel, and the significance of those values.

4. Write what you know of the rotting of timber and its prevention.

5. Describe the nature of the oils used for lubrication and for paint-making.

How would you proceed to test an oil to be used for either purpose?

6. Write what you know of the corrosion of metals and alloys and its prevention.

### Geology and Mineralogy I.

Eight questions only to be attempted.

Engineering Candidates will be expected to attempt Question 10.

Illustrate your answers with sketches as far as possible.

1. Under what conditions would you expect to find the following rocks?—Greisen; schist; volcanic agglomerate; chert; rhyolite. What are the distinctive characters of each?

2. What part does each of the following minerals play as a rock-forming mineral?—Sanidine; biotite; leucite; hornblende; apatite. Describe the characters of each.

3. Discuss the origin of coral reefs. Indicate in your answer the leading views which have been put forward.

4. Explain fully, by the aid of diagrams and Miller symbols, the following crystallographic forms:—Unit prism; brachypinacoid; clinodome; dodecahedron.

5. Trace the evolution of a river drainage system from youth to maturity. Illustrate your answer freely.

6. Compare and contrast the causes and effects of contact and dynamic metamorphism respectively.

7. Write a general account of either the Woody Island area or Canungra area, and illustrate your answer freely.

8. What criteria are used in determining the conditions under which sediments have been laid down? Indicate in your answer several examples met with in the field during the year.

9. Give a general description of the Echinodermata, clearly distinguishing between the different classes and using typical genera as examples.

10. What is clay? Give an account of the more important varieties, indicating clearly their physical properties and the uses to which they are put.

### Geology and Mineralogy II.—Paper I.

1. What do you understand by the following terms?—Sieve; clastic; ophitic; pseudomorphism; hemihedral.

2. Give a short description of the Amphibole and Pyroxene groups of minerals, and compare the megascopic and microscopic characters of the two groups.

3. Give a full description of each of the following rocks:—Granophyre; tonalite; greywacke; chert; phonolite.

4. “We must conclude that a rock-magma is, in the main, a mixture of definite silicate-compounds, . . .” (*Harker*). Discuss this statement as fully as possible.

5. By what characters would you recognise the following minerals under the microscope?—Garnet; titanite; sillimanite; hypersthene; tourmaline; calcite.

6. Write a general account of the characters and mode of occurrence of the hypabyssal rocks.

7. Draw up a classification of igneous rocks, stating clearly on what characters the classification is based.

### Geology and Mineralogy II.—Paper II.

#### SECTION A.—ECONOMIC.

1. What do you know of the following minerals?—Scheelite; franklinite; embolite; bauxite; redruthite.

2. Discuss the origin of coal, and give a general description of the coals mined in Queensland.

3. Give a general account of contact ore deposits, paying special reference to Queensland occurrences.

4. Give a description of the ores of (a) nickel, (b) arsenic, (c) manganese.

#### SECTION B.—STRATIGRAPHICAL GEOLOGY.

5. Write a general account of the Permian (Permo-Carboniferous) rocks of Eastern Australia.

6. Briefly outline the stratigraphical geology of South Australia.

#### Geology and Mineralogy II.—Paper III.

##### PALÆONTOLOGY.

1. Describe the hard structures of a simple rugose coral.

2. Give a brief description and the approximate geological range of the following :—*Fusulina* ; *Belemnites* ; *Maccoyella* ; *Spongophyllum* ; *Ventriculites* ; *Tæniopteris* ; *Fenestella* ; *Stromatopora* ; *Equisetites*.

3. What fossils are characteristic of the following systems in Australia ?—(i) Devonian, (ii) Cretaceous, (iii) Ordovician, (iv) Cambrian.

4. Define the following terms, and state in what connection each is used :—Apical disc ; X plate ; glabella ; pore-rhomb ; byssal sinus ; deltidium ; siphuncle ; avicularia ; umbilicus ; supplemental skeleton ; mural pore.

5. Give a general account of the Cephalopoda.

6. Describe in detail the skeleton of (i) a regular Echinoid, (ii) a dicyclic Crinoid, and (iii) a Chiton.

#### Geology and Mineralogy III.—Paper I.

1. Discuss the value of the sea-salt methods in determining the age of the ocean.

2. Indicate the more important explanations put forward for late Palæozoic glaciation. Criticise these.



3. Give an account of coast types, paying particular reference to the Pacific Ocean.
4. Write an essay on the mountain systems of Europe.
5. Give a general account of the geological structure of South America.
6. What do you understand by the theory of the permanency of continents and oceans? Discuss evidence for and against the theory.
7. Write geological notes on *three* of the following :—
  - (a) The Canadian Shield ;
  - (b) The Amphitheatre of Irkutsk ;
  - (c) The East African Trough ;
  - (d) Antarctica.

### Geology and Mineralogy III.—Paper II.

#### PETROLOGY AND MINERALOGY.

1. What do you understand by—Phacolite ; composite laccolite ; composite batholith ; interformational sheet? Give examples of each.
2. Give an account of the value of refractive index as a means of determining minerals, and indicate clearly how it is utilised.
3. How would you distinguish in microsections between—Aragonite and calcite ; diopside and olivine ; an untwinned section of orthoclase and cordierite?
4. Give an account of the pre-Mesozoic plutonic rocks of Australia.
5. Discuss Daly's magmatic stoping hypothesis.
6. Give an account of the spilitic rocks, and pay special attention to the various views as to the origin of some of their main characteristics.

**Geology and Mineralogy III.—Paper III.****PALÆONTOLOGY.**

1. Discuss the value of the various characters on which classifications of the Foraminifera have been based.
2. Give a general account of the Porifera.
3. Describe the hard structures of the Echinoidea. On what characters is the class subdivided ?
4. Give a general account of the hard structures of the Tetrabranchiata Cephalopods.
5. Compare and contrast the flora of Upper Palæozoic rocks with that of Lower Mesozoic rocks.
6. Describe briefly the fossil Equisetales, pointing out the distinguishing characters of the various genera.

**Physics I.****PASS PAPER.**

**Not more than Eight questions to be attempted.**

1. Explain fully the use of the screw for the measurement of small lengths.  
Describe the spherometer, and explain how it is used to measure the radius of curvature of a spherical surface.
2. Explain the meaning of the terms *machine*, *mechanical advantage*, *efficiency*.  
Describe the differential wheel and axle, and find its mechanical advantage.
3. Give an account of the principles underlying the construction and use of *direct reading* hydrometers.
4. Describe some form of air thermometer, and explain with full theory how you would use it to measure the boiling point of a given liquid.

5. Explain clearly the action of the following :—Vacuum flask ; glass house ; canvas water-bag ; safety lamp.

6. Describe and give the theory of the deflection magnetometer.

How would you use it to compare the moments of two short magnets ?

7. Explain the action of condensers, and find the capacity of a parallel plate condenser.

A condenser consists of 50 pairs of tinfoil plates joined in parallel, each of area 100 sq. cm., with intervening mica plates each one tenth of a millimetre in thickness. Find its capacity in microfarads.

Specific inductive capacity of mica = 6.

Microfarad =  $9 \times 10^5$  E.S. units.

8. Give a short account of the principles of electromagnetic induction, and give two practical illustrations.

9. Prove that for a concave spherical mirror

$$\frac{1}{f} = \frac{1}{u} + \frac{1}{v} = \frac{2}{R}.$$

An object is placed 12 cm. from a concave mirror of focal length 18 cm. Find by calculation and also by graphical construction the nature, position, and magnification of the image.

10. Explain fully the meaning of *refractive index*, *critical angle*, and find the relation between them. How would you measure refractive index by means of this relation?

### Physics I.

#### OPTIONAL PAPER.

1. Give a theoretical discussion of the sensitiveness of a balance whose arms are of equal length, but whose centre knife-edge is no. in the plane of the two outer knife-edges.

2. State the law of gravitation, and give an account of the evidence in favour of it.

How has the mass of the earth been formed ?

3. Write an account of evaporation and vapour pressure.

A closed vessel contains moist air. At a temperature of  $0^{\circ}\text{C}$ . the pressure due to the dry air alone is half an atmosphere ; at  $100^{\circ}\text{C}$ . the vessel is just saturated with water vapour. What will be the total pressure when the temperature is  $150^{\circ}\text{C}$ .?

4. Describe the dip circle, and explain fully how you would use it to determine the angle of dip accurately.

5. Explain what is meant by polarisation in a cell. How is polarisation avoided in (a) the Daniell cell and (b) the Lech-lanché cell ?

6. Explain the construction and action of the direct-vision spectroscope.

### Physics II.—Paper I.

#### PASS PAPER.

**Not more than Three questions in each Section to be attempted.**

**The answers to each Section to be handed in separately.**

**Mathematical Tables provided.**

#### A.

1. Explain fully how the angular velocity, at any instant, of a fly-wheel may be found (a) by a stop watch and (b) by a standard fork.

Discuss the relative accuracy of the two methods.

2. Find an expression for the period of vibration of a plane spiral.

Explain how temperature variations affect the spring of a watch, and how compensation is brought about.

3. Describe, with full theory, how the mean expansion coefficient of a liquid may be found by the hydrostatic balance method.

4. Define the two specific heats of a gas, and prove that  $C_p - C_v$  is approximately equal to the reciprocal of the density of the gas referred to that of hydrogen as unity.

Give an account of the direct determination of *either*  $C_p$  or  $C_v$ .

5. Explain what is meant by the thermodynamic scale of temperature, and prove that it coincides with the perfect gas scale.

If air at  $20^\circ \text{C}$ . is compressed adiabatically to one tenth of its original volume, find the change in temperature.

#### B.

6. State and prove Gauss' Theorem on the total normal induction over a closed surface in a field of electric force.

Interpret the theorem in terms of tubes of force in the case of a field due to a point charge.

7. Find the capacity per unit area of the parallel plate condenser.

Find the work done in increasing the distance between the plates of a parallel plate condenser—

(a) When the charge is kept constant ;

(b) When the potential is kept constant.

Discuss the discrepancy between the two results.

8. Define *magnetic intensity*, *magnetic induction*, *intensity of magnetization*. Find the relation between them.

Describe how you would determine experimentally the permeability of iron.

9. Explain what you mean by the term *electric current*.

A circular coil of five turns and radius 32 cm. carries a current of 3 amps. Find the resulting magnetic intensity at a point on the axis of the coil distant 24 cm. from the centre.

10. Give a full theoretical and practical account of some direct reading method of measuring the E.M.F. of a given cell.

**Physics II.—Paper II.****Not more than Six questions to be attempted.**

1. Show how two simple harmonic motions of the same period but at right angles to one another may be compounded, and deduce the result in a few simple cases.

Explain the production of circularly and elliptically polarised light.

2. A shunt is placed in a circuit between the points A and B. Find the fraction of the total current taken by the shunt, and the change in the resistance between A and B.

Describe and give the theory of the universal shunt.

3. Establish the Doppler principle and give two illustrations of it.

4. Describe fully some absolute method of determining the velocity of sound in air in a laboratory.

5. If the axis of a thick lens cuts the surfaces of the lens at O' and O, and N' and N are the nodal points, C the optical centre, and  $r$  and  $s$  the radii of curvature, prove that

$$\frac{OC}{O'C} = \frac{NC}{N'C} = \frac{r}{s}.$$

Hence show that, for a plano-convex or plano-concave lens in air, the point where the axis cuts the curved surface is a nodal point and also the optical centre. Prove also that the other nodal point is distant  $(\mu - 1)t/\mu$  from the curved surface, where  $t$  is the thickness of the lens, and  $\mu$  is the refractive index.

6. Discuss the chromatic aberration of two thin lenses a finite distance apart, and prove that if they are of the same glass, and the distance between them is numerically equal to half the sum of their focal lengths, the focal length of the combination is the same for all colours.

7. Explain fully how the wave length of light may be found by means of Newton's rings.

8. Describe the construction and give the theory of the concave grating, and show that its spectra are normal.

Point out any particular advantages it possesses.

**Physics II.—Paper III.**

## OPTIONAL.

Answers to A and B must be handed up separately.

## A.

1. Describe with full theory one method of measuring the compressibility of a liquid.
2. Explain fully how the thermal conductivity of a liquid may be found.
3. Discuss the flow of gas through a porous plug (*a*) isothermally, and (*b*) adiabatically. Describe briefly Kelvin and Joule's experiments, and state the results obtained.

## B.

4. Explain what is meant by *specific inductive capacity*. Discuss the principal modifications in electrostatic theory for dielectrics other than air.
5. Find an expression for the potential energy of a circuit carrying a current in a magnetic field. Hence or otherwise find a possible expression for the mechanical force per unit length of the circuit.
6. Give an account of electromagnetic induction, and explain how you would measure the mutual induction of two coils.

**Logic.**

*See under* FACULTY OF ARTS.

**FACULTY OF ENGINEERING.**

## FIRST YEAR.

**Pure Mathematics I.; Applied Mathematics I.**

*See under* FACULTY OF ARTS.

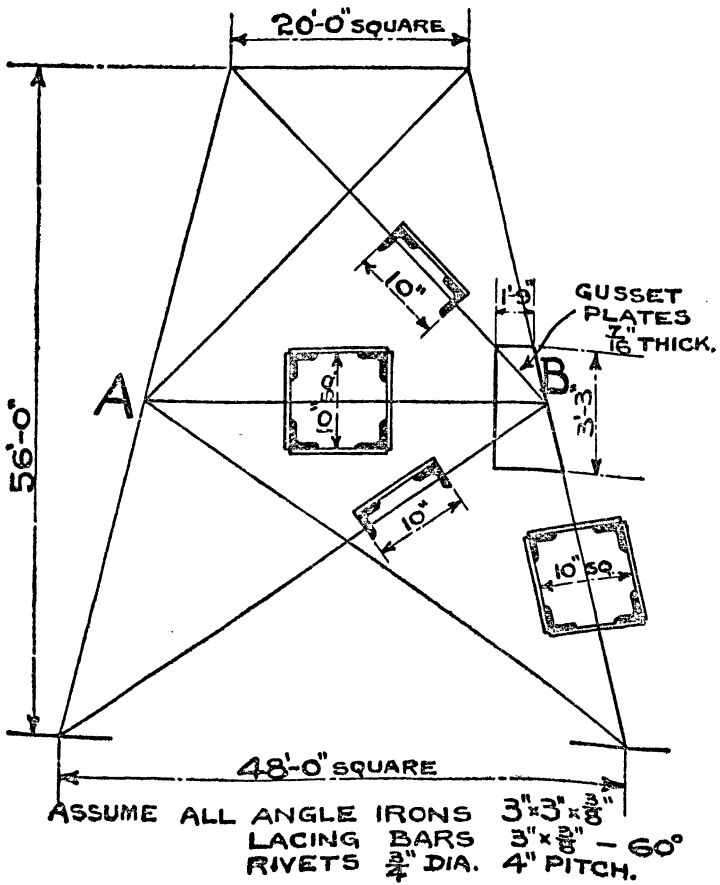
**Chemistry I.; Geology and Mineralogy I.; Physics I.**

*See under* FACULTY OF SCIENCE.

Descriptive Geometry.

PAPER A.

The following sketch gives some particulars for a structural steel elevated tank-stand. Draw to a scale of 3" = 1 foot the complete horizontal and vertical projections of either joint marked A or B.





## PAPER B.

1. Draw (full size) three coils of a helical spring, given—

Pitch of coils .. ..  $1\frac{1}{4}$  inches

Section of wire .. ..  $\frac{1}{2}$  inch square

Outside diameter of coils 3 inches.

2. Figure I shows a sectional elevation of a C.I. pipe. Draw to a scale of 3" = 1 ft. an outside elevation of the pipe.

3. Figure II shows a W.I. hinge bracket drawn in oblique projection.

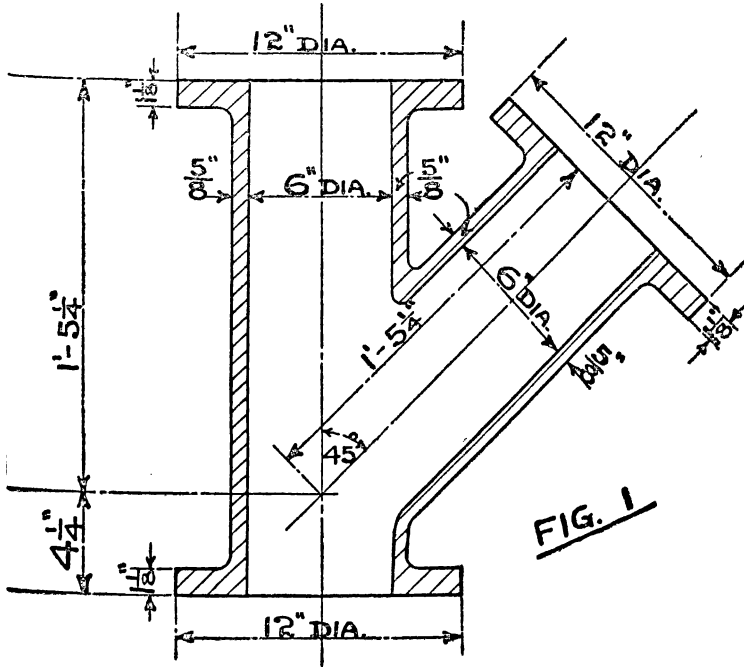
Draw this bracket—

(a) In orthographic projection (full size).

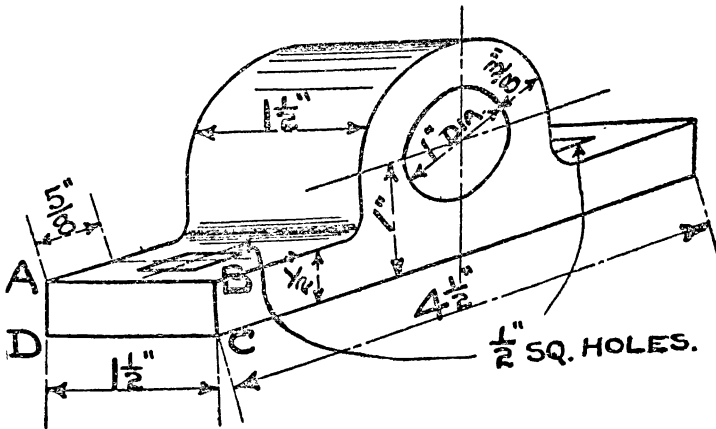
(b) In isometric projection (full size).

(c) In perspective when lying on the ground with side ABCD inclined at  $45^\circ$  to the picture plane, and receding to the left of the spectator. Edge BC to be 1 inch behind the picture plane and  $\frac{1}{2}$  inch to the right of the spectator. The spectator's eye to be taken as 4 inches above the ground plane and 8 inches in front of the picture plane.

Scale—Half size.

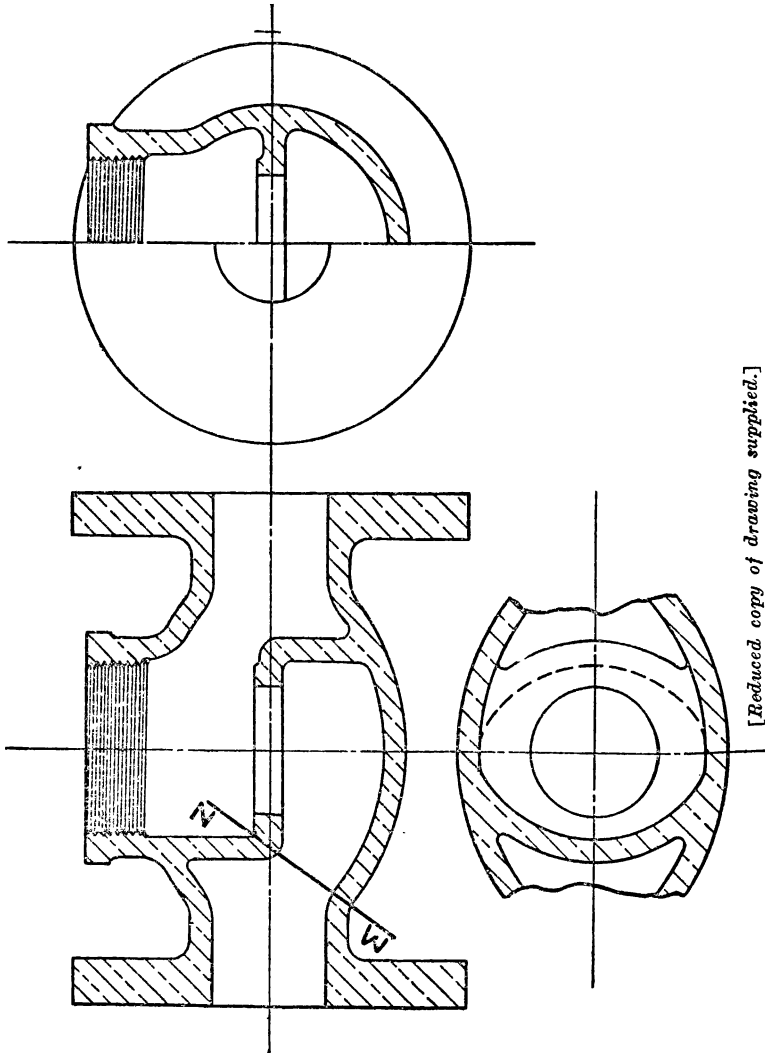


**FIG. I**



**FIG. II**

4. The attached drawing gives three views of the body of a G.M. globe stop valve. Pin this drawing to your paper, and project a section to show the area through MN.



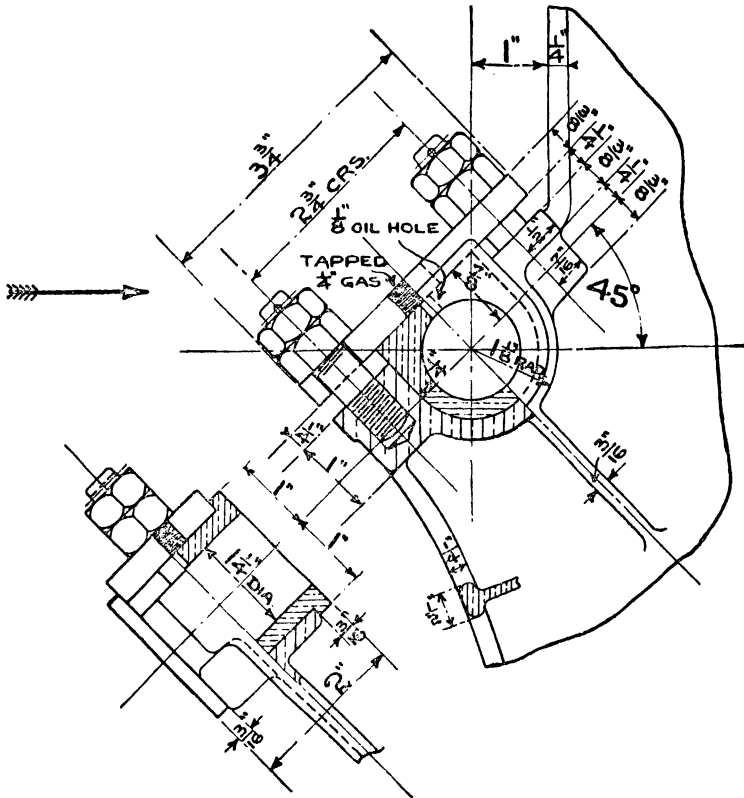
[Reduced copy of drawing supplied.]

**Drawing and Design I.**

TIME ALLOWED—FOUR HOURS.

Four questions only to be attempted. These must include Nos. 1 and 2.

1. Two views of a bearing cast on a gun-metal frame are shown on the following sketch. Draw full-size the views given, and in addition project an end view looking in the direction of the arrow. No part of the end view is to be shown in section.



2. A mild-steel shaft has keyed to it three pulley wheels of 1 ft. 3 in. diam., 2 ft. diam., and 3 ft. diam. respectively. The centres of the bearings carrying the shaft are 10 ft. apart,

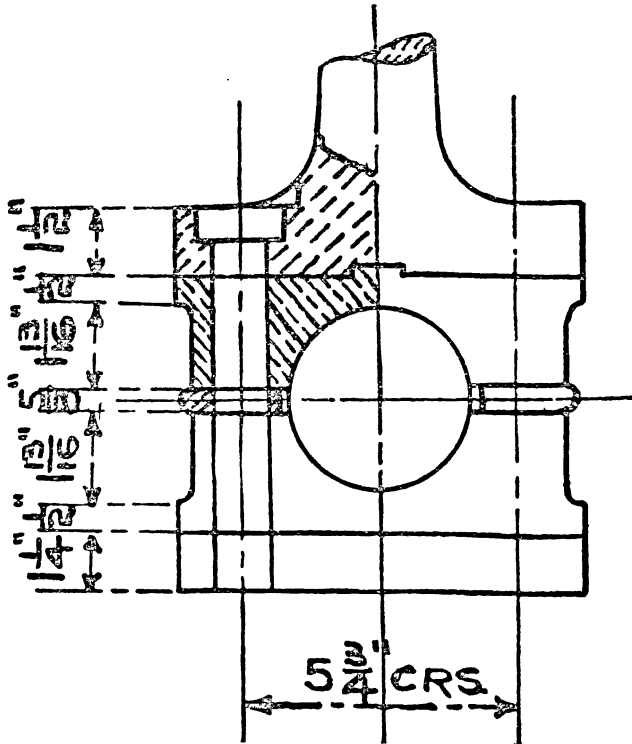
and the pulleys are spaced equally along the shaft with the 3 ft. diam. pulley in the centre. The driving force of each pulley is 200 lb.

(a) Draw the bending moment diagram for the shaft, neglecting the weight of the pulleys and the shaft.

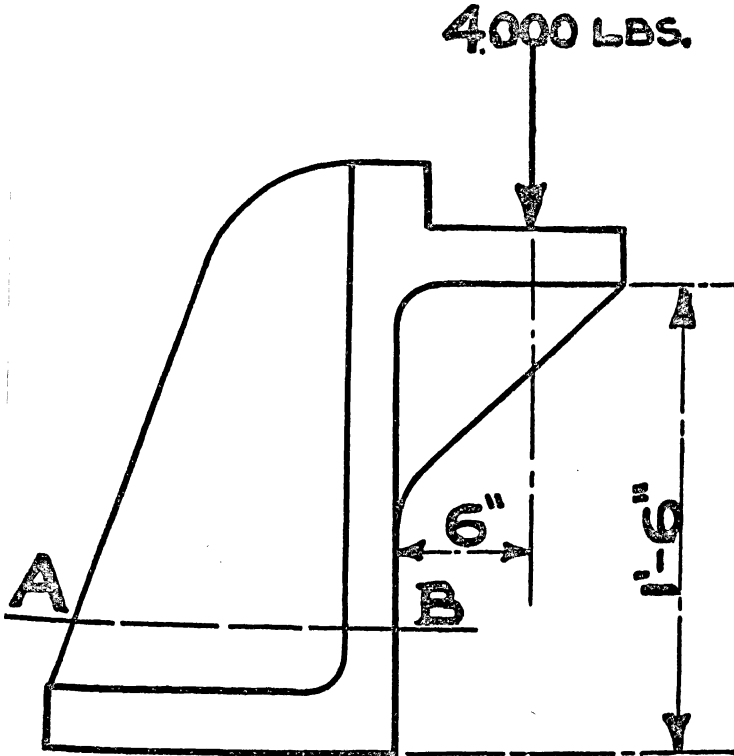
(b) Calculate a suitable diameter for the shaft.

3. Design and sketch one of the pulleys in Question No. 2.

4. The following sketch gives particulars of the bottom end of a connecting rod for a steam engine. The load transmitted from the piston is 8,000 lb. Design and sketch suitable bolts.



5. A cast-iron bracket has to support a dead load of 4,000 lb. as shown in sketch. Design a suitable section AB for the bracket.



SECOND YEAR.

Pure Mathematics II. ; Applied Mathematics II.

*See under* FACULTY OF ARTS.

Chemistry II. ; Physics II.

*See under* FACULTY OF SCIENCE.

**Heat Engines I.**

**Steam Tables and Squared Paper are available for use.**

1. A steam-engine, working with steam at 150 lb. per sq. in. gauge pressure and  $100^{\circ}$  F. superheat, uses 15 lb. of steam per b.h.p. hour when the vacuum is 24 in. Trace out the working cycle, pointing out in what part of the system each stage takes place, and calculate the actual thermal efficiency of the engine and the efficiency of an ideal engine working with the same limits.

2. (a) Discuss the effect on the indicator diagram of altering the steam and exhaust laps of the D slide valve of an engine.

(b) Show the effect on the indicator diagram of a gas-engine of the following:—Pre-ignition, inlet valve opening late and shutting early, leaky exhaust valve; and explain how these defects might be rectified.

3. State what you understand by the term *diagram factor* for steam-engines and gas-engines, and give typical indicator cards for each; and explain why the ideal diagrams become considerably modified in practice.

4. Calculate the stroke and diameter of a simple steam-engine to develop 50 b.h.p. at 200 r.p.m.; cut-off to be at half-stroke and boiler pressure 150 lb. per sq. in.

5. Compare the characteristics of steam turbines and reciprocating engines, noting the effect of variations of working steam pressure, vacuum, superheat, speed, and load, and state what you consider the main spheres of usefulness of each type.

*Or—*

Discuss briefly the advantages and disadvantages of impulse and reaction turbines, and describe how the various types can be classified.

6. Describe a gas producer of the pressure or the suction type, and contrast the reactions that occur with those that occur in the furnace and flues of an ordinary steam boiler.

7. Discuss the requisite properties of a good refrigerating substance for a vapour compression plant, and compare ammonia and carbon dioxide for the purpose under local conditions.

*Or—*

Examine the actual working cycle of a vapour compression machine by means of the entropy diagram, noting the effect of compressor piston friction and the use of the expansion valve in place of an expansion cylinder.

### Applied Mechanics.

**Seven questions only to be attempted. Squared paper is available for your use. Slide rule may be used.**

1. A horizontal engine has a stroke of 18 in. and runs at a speed of 240 r.p.m. The connecting rod is 36 in. long and the diameters of the crank-pin and gudgeon-pin are 5 in. and 3 in. respectively. Find the linear speeds of rubbing of these pins in their brasses when the crank is vertical.

2. Discuss the conditions to be fulfilled in the tooth profiles of a pair of intermeshing gears, and explain the advantages of involute profiles. In a pair of involute gears having an angle of obliquity of  $30^\circ$  find the pressure on the bearings when a tangential load of 1,000 lb. is being transmitted.

3. In a single-cylinder four-cycle gas-engine the cyclic speed variation at full load is observed to be from 200 to 204 r.p.m. If the flywheel weighs 2 tons and has a radius of gyration of 3 ft., find the approximate b.h.p. of the engine, and state whether the speed regulation would be improved or otherwise by the addition of a second similar cylinder acting on a parallel crank and alternating its explosions with those of the other cylinder.

4. Discuss briefly the friction of lubricated surfaces, and discuss the relative merits of ball bearings and ordinary journal bearings.

5. Describe briefly the behaviour of the following materials in tension, and give values for working stresses and elastic and ultimate strengths:—Mild steel, tool steel, gunmetal, hard-drawn copper, cast iron.

6. A beam 20 ft. long with a uniform load of 100 lb. per foot run is supported at two points equidistant from the ends.

Find the most efficient position of the points of support, and design the beam, assuming a steel I section whose width is half its depth.



7. By means of the modulus figure, show the distribution of shear stress over the cross-section of an I beam and the intensities of shear stress at various points in the section. A beam of rectangular section 6 in.  $\times$  3 in. is subjected to a shearing force of 90,000 lb. Find the maximum intensity of shear stress at the neutral axis.

8. A shaft 5 in. diameter carries a 2-ton flywheel on a span of 2 ft. and transmits 100 h.p. at 100 r.p.m. Find the maximum stress in the shaft and also the twist in degrees per foot of length if  $C = 13,000,000$  lb. per sq. inch.

9. On a plane section of a material we have a complex system of stress consisting of a normal stress of intensity  $f$  and a shear stress of intensity  $s$ . Find the maximum intensity of stress.

A R.S. I beam 10 in.  $\times$  8 in.  $\times$  70 lb. on a span of 10 ft. carries a central load of 20,000 lb. Find the maximum fibre stress at the root of the web assuming the shear stress uniformly distributed over the web.

Web, 6 in.

Flange, 1 in. thick.

Modulus of section, 69.

## Drawing and Design II.

TIME ALLOWED—FOUR HOURS.

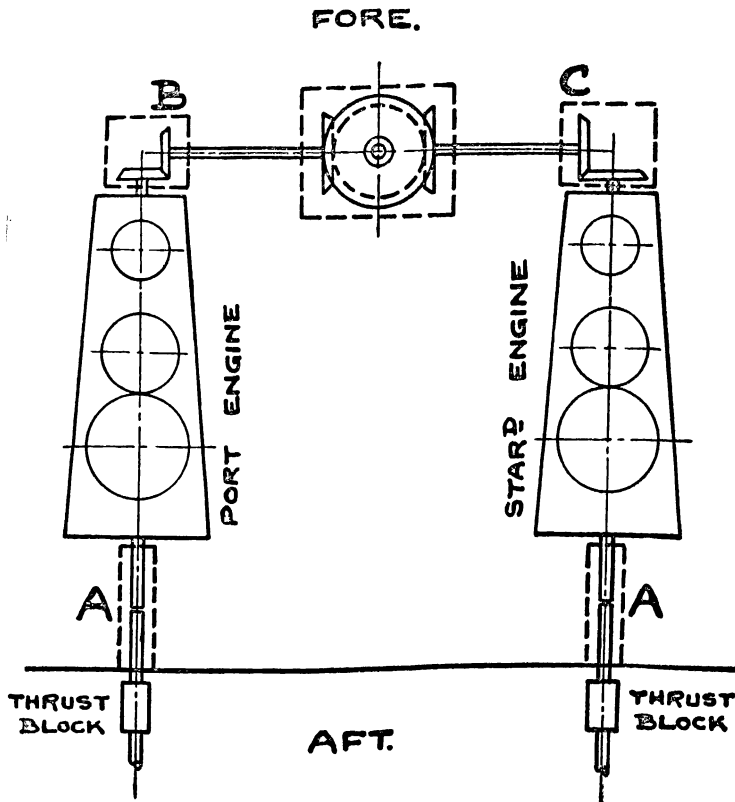
One question only to be answered.

Drawings to be made to such scales as are suitable for the paper provided.

Calculations are to be written in the books provided.

1. The main engines of a twin-screw bucket ladder dredger are used for the double purpose of propelling the vessel and for driving the dredging gear, and are arranged as shown on the following sketch. The buckets are driven at two different speeds, obtained by gearing to either the port or starboard engine. When the vessel is being propelled, clutches A, A engage the propeller shafts with the engines, and the bevel-wheels B and C are out of gear. Before commencing dredging

operations the clutches are disengaged, and either bevel-wheel B or C is put into gear according to whether the port or starboard engine is going to be used. The engines are triple-expansion and are capable of developing 600 i.h.p. running at 120 revolutions per minute. The shafts are 7 in. in diameter and their centre line is 15 in. above the floor-plates. The shafts and the gearing are covered over with timber as indicated by the dotted lines. Design the clutch A and a simple means for operating it; also design a simple means for keeping bevel-wheels B and C in or out of gear.



2. A workshop consisting of several bays has sets of rails of 2 ft. 6 in. gauge, laid down along and across each bay for the purpose of moving material in bogies from one part of the shop to another. At each intersection of the rails concrete pits 5 ft. diameter and 1 ft. 6 in. deep have been prepared to receive a turntable. The wheel base of the bogie is 3 ft. and the maximum weight of the material and the bogie together is  $2\frac{1}{2}$  tons. Design a suitable cast-iron turntable.

### THIRD YEAR.

#### (A) Civil Engineering.

##### Mathematics.

*See under* FACULTY OF ARTS.

##### Engineering Chemistry.

*See under* FACULTY OF SCIENCE.

##### Engineering Geology.

Questions bearing on this subject are incorporated in the papers on Civil Engineering I.

#### Civil Engineering I.—Paper I.

Not more than Five questions to be attempted.

1. Explain the properties of the link polygon, and show the application of your results in obtaining—

- (a) The deflection of a beam,
- (b) The stresses in a framed structure,
- (c) The “moment of inertia” of a series of parallel forces.

2. Explain the assumptions made and outline the basis of proof of the equation of three moments ; apply the solution to deduce the influence lines of bending moment and shear at one abutment in a fixed beam.

3. Explain clearly the assumptions made as to the stresses in mass structures, and apply the results to the design of—

(a) A brick chimney ;

(b) A high concrete dam (outline the various steps in the design).

4. Deduce the formulæ for work done in terms of (1) bending moment and of (2) direct stress. Using the method of least work or otherwise, calculate the tension  $T$  in a tie attached to the end of a cantilever and inclined at an angle  $\theta$  to the wall from which the cantilever projects.

5. Discuss the column problem and its approximate solution from the point of view of an essential eccentricity of loading with a "virtual length" corresponding (assume the Euler solution for the ideal column). Show how to deduce curves showing the change of stress in the extreme fibre as the load changes and for various values of the assumed eccentricity.

6. Discuss the theory of elementary reinforced concrete design with special reference to the properties of concrete and steel when used in conjunction.

Apply your remarks to the design of a reinforced concrete beam "simply supported" for a 10-ft. span and a load of 700 lb. per lineal foot.

7. Assume the load as two standard locomotives. Deduce the maximum bending moments and maximum shear in a single-line bridge, 200-ft. span at a point 80 ft. from the end ; also calculate the greatest maximum bending moment in the structure.

8. Using two alternative methods, calculate the deflection of a centrally loaded strut bent in the form of a sine curve  $(0 \text{ to } \frac{\pi}{2})$ . What does your result indicate?

*Or—*

Calculate the deflection of a centrally loaded beam—

- (a) Using  $\iint M dx dx$  formula ;
- (b) Using  $\int Mx dx$  formula ;
- (c) Equating internal and external work.

### Civil Engineering I.—Paper II.

**Not more than Five questions to be attempted, which must include those marked thus †.**

†1. Discuss the properties of Australian timbers suitable for engineering construction. Indicate the sources of supply and the policy you would suggest for providing for future requirements. Use generic names where possible.

2. Write a short Essay on the requirements and construction of a modern city road ; quote foreign practice where you can.

3. Discuss the question of jointing in rocks, and indicate the advantage of a knowledge of jointing from an engineering standpoint ;

*Or—*

What are the governing factors bringing about the formation of bars across the mouth of the Northern Rivers of N.S.W.?

How may the difficulties be overcome?

4. Describe with sketches the design and construction of deep foundations such as that of the Hawkesbury Bridge, N.S.W.

5. Write a short Essay on retaining-wall design ;

*Or—*

Explain one of the theories of earth pressures.

†6. Write a short Essay summarising the chief points of an article or a series of articles that appeared in the journal allotted for your special reading.

7. Discuss the effect of curvature on the economic location of railways.

8. Explain the modern ideas of the action of filter-beds for water supply, and give sketch designs for a series of beds for Brisbane.

### Surveying I.—Paper I.

Not more than Five questions to be attempted, which must include those marked thus †.

1. Explain the construction and use of the sextant. Compare it with the theodolite as an instrument of precision.

2. Deduce the formulæ and draw up a proposed field-book for tacheometer work: discuss the accuracy to be obtained in such work.

†3. Write an essay on chaining with long wires, and criticise various methods in detail.

4. Deduce the formula for barometric levelling, and explain the aneroid barometer and how it may be used for trustworthy work.

5. Explain the methods used for the transfer of the meridian below ground in mine surveying. Analyse the sources of error and the methods to be used to get the desired accuracy.

†6. Explain the various methods of keeping levelling notes, and compare and contrast the adjustments of a dumpy and a wye level;

*Or—*

Deduce the effect of observations of an error collimation in azimuth in theodolite work. Explain, with sketches, the method of testing and correcting the error.

†7. (a) State the various formulæ for computation of quantity of earthwork from cross-sections, and explain clearly the assumptions made in each of the formulæ.

(b) Explain the mass diagram and its properties for the computation of haul and overhaul; use sketches.

8. Write a comparative essay on Railway Transition Curves.

**Surveying I.—Paper II.**

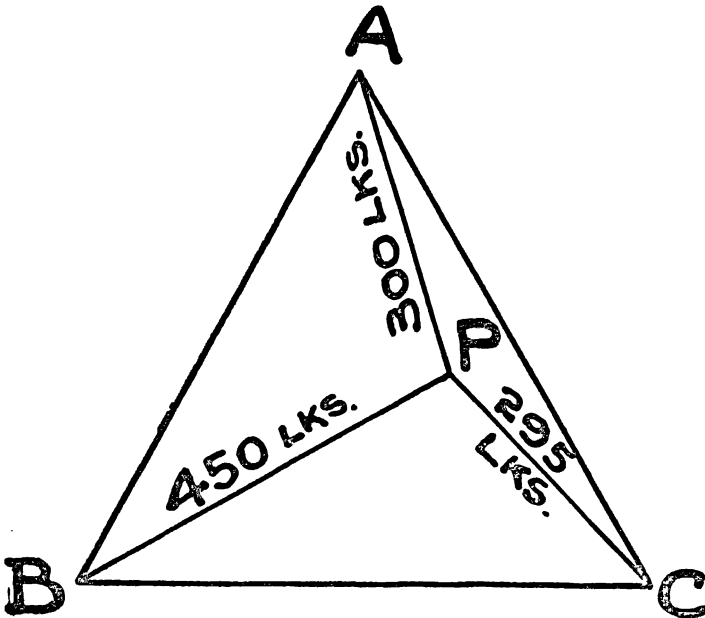
Mathematical tables will be provided.

Where time does not permit of a complete arithmetical solution indicate fully your methods of solution.

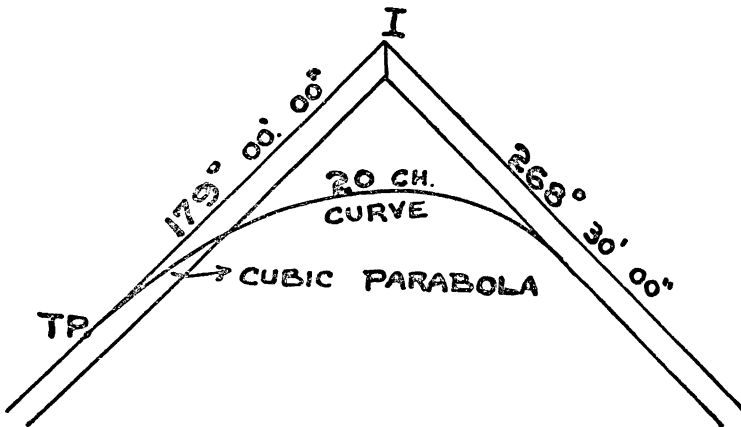
No. 3 is to be complete in detail.

1. ABC is an equilateral triangle and P a point within the triangle.

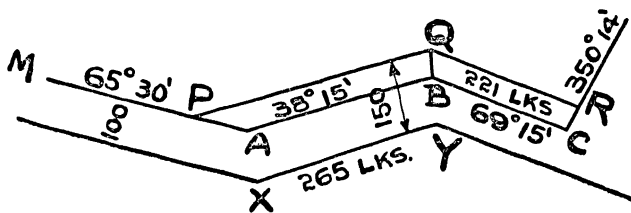
P is fixed by its distances 300, 450, and 295 lks. from A, B, and C respectively. Compute the area of the triangle and the angle made with BC by a line through P dividing the triangle into two equal parts.



2. Calculate the data necessary to set out a 2-chain transition curve, with offsets at each 50 lks. for the case shewn in the sketch.

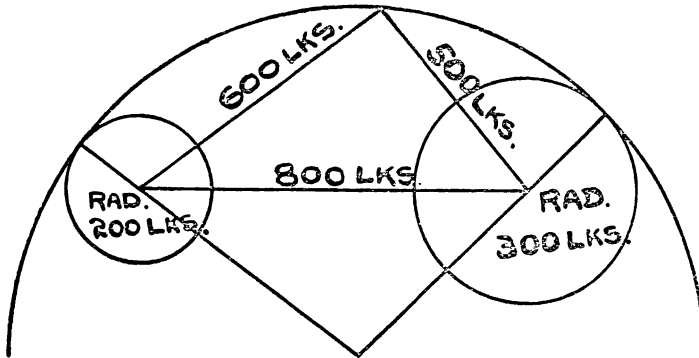


3. MABC is the boundary of a property part of which is to be resumed to widen the road to 150 lks. as shown in the sketch. Calculate the bearings and lengths of BQ and AP and the area to be resumed.





4. Calculate the radius of a circle to touch the two circles and pass through P.



### Hydraulics I.

**N.B.**—Distinct sketches should be given where possible.  
Full marks can be obtained on Six questions.

1. Find the centre of pressure and the total pressure on one side of a pyramid 3 ft. high, whose base is 8 ft. square and rests on the bottom of a tank containing water 10 ft. deep.
2. In the design of a simple barge or punt explain exactly how you would calculate the metacentric height.
3. In the use of a water jet for marine propulsion deduce the relations between the speed of the vessel, the speed of the jet, and the volume of water pumped per minute, and show that for a screw vessel such as a tugboat the propeller diameter should be as large as possible.
4. Describe in detail any turbine test you have carried out, and give typical curves of the speed efficiency characteristics.
5. Discuss the conditions to be fulfilled by a governing device for turbines, and describe various methods of regulating reaction turbines.
6. Describe, with sketches, a multistage turbine pump, and discuss the characteristics of a typical pump of this kind.

7. Describe, with sketches, the principal types of plunger pumps, and indicate the nature of the service for which each kind would be suited.

8. Describe in detail any two of the following :—

- (a) Hele Shaw variable pump ;
- (b) Föttinger hydraulic transmission gear ;
- (c) Roturbo pump ;
- (d) Leblanc air pump.

### Hydraulics II.

**Not more than Five questions to be attempted, of which that marked † is to be one.**

1. Discuss the question of “run-off” and the formulæ to deduce the amount.

2. Derive, with comments as to assumptions made, the Chezy formula for flow of water in an open channel, and discuss the alternatives suggested and how the constants are deduced from experiment.

3. Discuss the question of the underground flow of water, and deduce the formula for the flow into a well, and indicate the effect of variations in the various elements.

4. Deduce the general expression for the surface of a stream with a variable flow. Compare, using sketches, the physical meaning and phenomena for varying values of the elements.

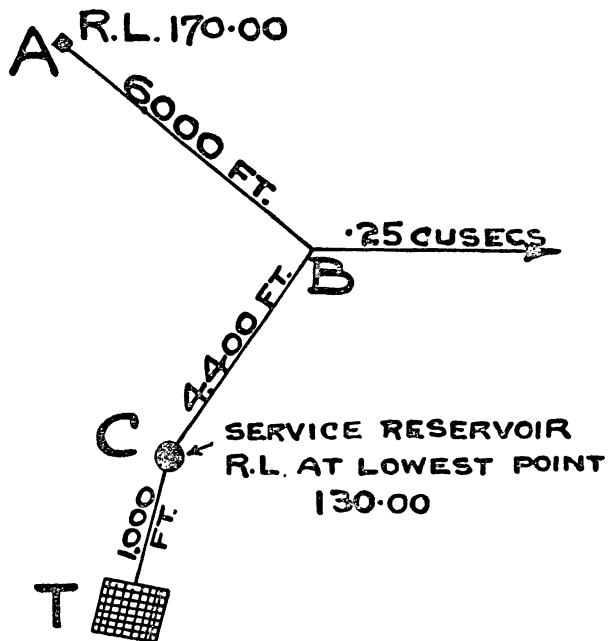
5. Show how the transporting force of a current varies with the velocity. Give practical figures of grades in the design of—  
(a) sewers, (b) irrigation canals, (c) house drains.

†6. Referring to sketch—

$$\text{Assuming in rough form } c = \frac{1.8}{n} + 41.6 \text{ in Kutter's} \\ 1 + \frac{n}{\sqrt{r}} (41.6)$$

formula. Calculate the series of pipes required to give 80' head in the town T of 8,000 people, presuming that at B is an

off-take amounting to .25 cusecs for irrigation purposes.  
Assume any data required.



7. Discuss the phenomena due to the action of rivers at bends.

Illustrate your remarks by local examples.

Or—

Write a short essay on the measurement of stream discharge.

### Building Construction and Architecture.

Not more than Eight questions to be attempted.

#### PART A—BUILDING CONSTRUCTION.

1. Draw and describe, so far as necessary, a fire-resisting floor composed of concrete of uniform thickness with steel joists; also two other kinds of fire-resisting floor, in one of which the concrete is carried by terra-cotta supports.

Give a description of the concrete.

2. A warehouse is to be erected on the banks of a tidal river, the wall next the stream rising vertically from low-water mark, and the lowest floor being 20 ft. above that level. The thickness of the brickwork from top of footings to the floor level is 4 ft. 6 in. Describe fully, in their proper order, *all* the operations necessary for laying the foundations and building the wall up to floor level. How would you protect such a wall from abrasion by barges?

3. Draw a vertical cross-section, to a scale of  $1\frac{1}{2}$  inches to a foot, through the foot of a wooden king-post and a tie-beam  $5'' \times 11''$ , showing all the details of a stirrup iron  $\frac{3}{8}''$  thick, properly wedged up with gibs and cotters.

4. Under what circumstances would you use a wood queen-post instead of a king-post roof truss, and why? Give, to a scale of 10 ft. to an inch, a line diagram of a timber roof truss for a 50-ft. span with 4 vertical members. Indicate the members in compression by thick lines.

5. The wall of a building 50 ft. high from pavement to parapet, and having 5 floors 10 ft. apart, but no basement, shows signs of bulging, and is to be supported by a raking shore. Draw the shore ( $\frac{1}{4}$ -in. to the foot), name all the parts, and figure the scantlings of the timbers.

#### PART B—HISTORY OF ARCHITECTURE.

6. Mention the distinguishing characteristics of the Roman, Doric, Ionic, and Corinthian Orders.

7. Briefly describe the principles and character of Gothic Architecture in Western Europe. Name a typical English and a typical French Gothic Cathedral, and state the main points of difference.

8. Name the principal buildings that were erected on the Acropolis at Athens. Mention the name of the ruling statesman and others connected with the erection of the Parthenon.

9. Mention two examples of Roman, Byzantine, Romanesque, and Renaissance Architecture, and give a brief description of one of the examples in each style.

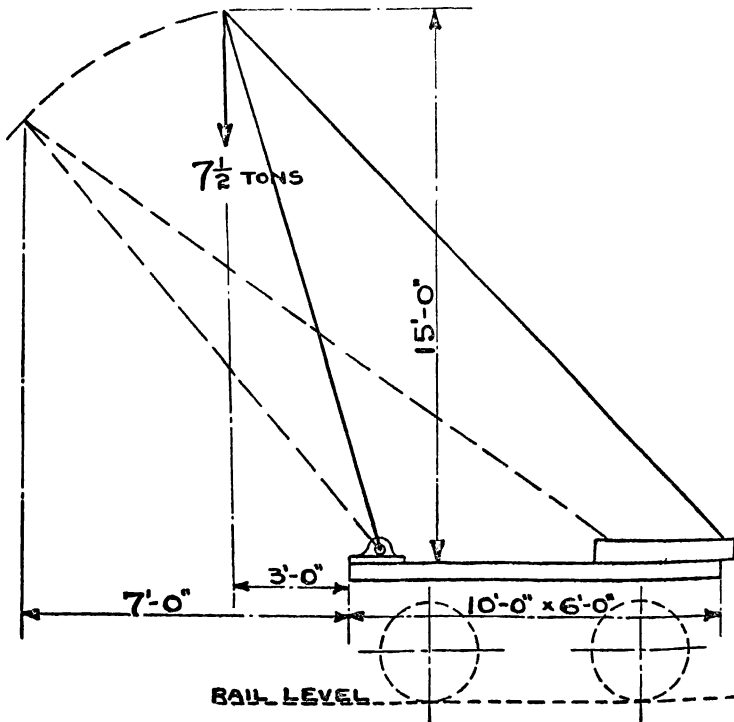
**Drawing and Design III.**

TIME ALLOWED—ONE DAY.

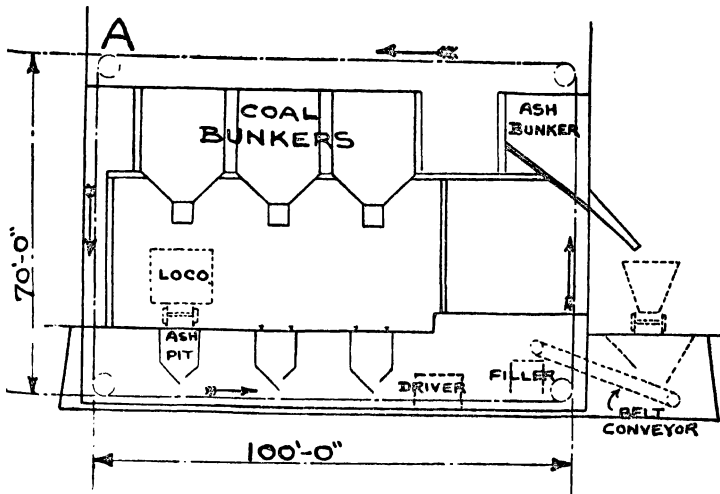
Any books or notes available.

One question only to be answered.

1. Figure I shows in sketch form a travelling shearlegs to be capable of handling a maximum working load of  $7\frac{1}{2}$  tons with a range of 4 ft. Give a general layout, and design the details of the legs and their attachment to the truck.

**FIG. I.**

2. Figure II shows in sketch form a system for coaling and removing the ashes from locomotives by means of a bucket conveyor capable of filling the bunkers at the rate of 25 tons per hour. The buckets are attached to a link-chain which is supported and guided by small wheels running along sets of rails horizontally. Design the detail at the corner A, and a movable tippler for the buckets.



**FIG. II**

**(B) Mechanical and Electrical.  
Mathematics.**

*See under* FACULTY OF ARTS.

**Applied Electricity.**

1. Briefly describe and discuss the following A.C. instruments :—

- Moving iron ammeter,
- Dynamometer voltmeter,
- Watt-hourmeter,
- Shaded pole induction ammeter with series transformer.

Examine clearly the action of the series transformer.

2. Describe in practical detail how to obtain a B.H. curve for a sample of soft iron, and trace the connection between this curve and the wave form and phase displacement of the light load current of a transformer.

3. Describe the various losses in a D.C. machine, and note the way each loss varies with load in the case of both a shunt and a series motor.

4. Describe the Leeds Northrup Comparator, and explain exactly how you would use it to calibrate an A.C. voltmeter reading to 200 volts.

5. Explain electrical resonance in both series and parallel arrangements of circuits. Point out the conditions under which disturbances may result from harmonics in the E.M.F. wave from a generator.

6. The torque of a generator or motor is due to the interaction of two fields which may either be both fixed or both rotating together. Examine this statement with regard to both D.C. and A.C. machines, noting carefully in the latter the effect of lagging and leading power factor.

**Civil Engineering I.; Surveying I.; Engineering, Drawing, and Design III.; Hydraulics I.**

*See under (A) CIVIL ENGINEERING.*

**Engineering Chemistry.**

*See under FACULTY OF SCIENCE.*

**Heat Engines II.**

**Full marks can be obtained on Five questions.**

1. Describe the Unaflo type of steam engine, and carefully consider its merits as compared with the ordinary types.

2. Briefly compare the characteristics of impulse, reaction, and disc and drum types of steam turbine. Point out in what respects generally turbines differ in performance from reciprocating engines.

3. Give an account of the transfer of heat in condensers, and discuss the rational design of surface condensers for high vacua.

4. Examine the various losses in a gas engine, and give an account of modern views regarding the effect of speed, compression, and other factors on the actual efficiency of a gas engine.

5. Discuss the possibility of improving the efficiency and output of boilers, more especially from the point of view of furnace design and increased forced draught.

6. Describe the main types of gas producer, and note the sphere of usefulness of each type.

*Or—*

Summarise the various ways in which mechanical power can be derived from coal, and give short details of the plant involved in each process. Indicate the process which in your opinion is best suited to utilise coal containing a high percentage of non-combustible matter.

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EXAMINATIONS FOR FINAL HONOURS, 1918.

**FACULTY OF ARTS.**

Papers set in the Schools of—

	Page.
(A.) CLASSICS .. .. .	124
(B.) MODERN LANGUAGES AND LITERATURE .. .. .	163
(C.) MENTAL AND MORAL PHILOSOPHY .. .. .	181

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EXAMINATIONS FOR FINAL HONOURS, 1918.

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(A.) CLASSICS.

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PAPERS.

	Page.
1. Greek—Unseen Translation .. .. .	125
2. Greek Prose .. .. .	128
3. Greek—Prepared Books (A) .. .. .	128
4. Greek—Prepared Books (B) .. .. .	133
5. Latin—Unseen Translation .. .. .	136
6. Latin Prose .. .. .	139
7. Latin—Prepared Books (A) .. .. .	140
8. Latin—Prepared Books (B) .. .. .	143
9. Greek History .. .. .	146
10. Roman History .. .. .	149
11. Greek Philosophy .. .. .	151
12. Literature—Greek and Roman Epic .. .. .	154
13. Literature—Greek Drama and Aristotle Poetics .. .. .	156
14. General Paper .. .. .	158

## FINAL HONOURS EXAMINATIONS, 1918.

*The time allowed for each paper is three hours unless otherwise stated.*

### (A.) CLASSICS.

#### 1. GREEK—UNSEEN TRANSLATION.

Translate—

##### 1. *Polydamas Advises the Trojans to Retreat.*

Τοῖσι δὲ Πουλυδάμας πεπνυμένος ἦρχ' ἀγορεύει  
 Πανθοΐδης· ὁ γὰρ οἶος ὄρα πρόσσω καὶ ὀπίσσω.  
 “ ἀμφὶ μάλα φράζεσθε, φίλοι· κέλομαι γὰρ ἔγωγε  
 ἄστυδε νῦν ἰέναι, μὴ μίμνεν ἡῶ διὰν  
 ἐν πεδίῳ παρὰ νηυσίν· ἐκὰς δ' ἀπὸ τείχεός εἰμεν.  
 ἀλλ' ἴομεν προτὶ ἄστυ, πίθεσθέ μοι· ὦδε γὰρ ἔσται.  
 νῦν μὲν νῦξ ἀπέπαυσε ποδώκεα Πηλεΐωνα  
 ἀμβροσίη· εἰ δ' ἄμμε κιχήσεται ἐνθάδ' ἐόντας  
 αὔριον ὄρμηθεις σὺν τεύχεσιν, εὖ νύ τις αὐτὸν  
 γνώσεται· ἀσπασίως γὰρ ἀφίξεται Ἴλιον ἱρήν,  
 ὅς κε φύγη, πολλοὺς δὲ κύνες καὶ γῦπες ἔδονται  
 Τρώων· αἶ γὰρ δὴ μοι ἀπ' οὔατος ὦδε γένοιτο.  
 εἰ δ' ἂν ἐμοῖς ἐπέεσσι πιθώμεθα κηδόμενοι περ,  
 νύκτα μὲν εἰν ἀγορῇ σθένος ἔξομεν, ἄστυ δὲ πύργου  
 ὑψηλαί τε πύλαι σανίδες τ' ἐπὶ τῆς ἀραρυῖαι  
 μακραὶ ἐϋξεστοὶ ἐζευγμένοι εἰρύσσονται·  
 πρῶτ' δ' ὑπηροῖοι σὺν τεύχεσι θωρηχθέντες  
 στησόμεθ' ἄμ πύργους. τῷ δ' ἄλγιον, αἶ κ' ἐθέλησιν  
 ἐλθῶν ἐκ νηῶν περὶ τείχεος ἄμμι μάχεσθαι·  
 ἄψ πάλιν εἶσ' ἐπὶ νῆας, ἐπεὶ κ' ἐριαύχενας ἵππους  
 παντοίου δρόμου ἄση ὑπὸ πτόλιν ἡλασκάζων.  
 εἴσω δ' οὐ μιν θυμὸς ἐφορμηθῆναι ἐάσει,  
 οὐδέ ποτ' ἐκπέρσει· πρὶν μιν κύνες ἄργοι ἔδονται.”

*Iliad xviii.*

2. *To Cygnus.*

Σοὶ μὲν ἐγὼ πτέρ' ἔδωκα, σὺν οἷς ἐπ' ἀπείρονα πόντον  
 πωτήση καὶ γῆν πᾶσαν ἀειρόμενος  
 ῥηιδίως· θοίνης δὲ καὶ εἰλαπίνησι παρέσση  
 ἐν πάσαις, πολλῶν κείμενος ἐν στόμασιν·  
 καὶ σε σὺν αὐλίσκοισι λιγυφθόγοις νέοι ἄνδρες  
 εὐκόσμως ἔρατοὶ καλά τε καὶ λιγέα  
 ἄσσονται· καὶ ὅταν δνοφερῆς ὑπὸ κεύθεισι γαίης  
 βῆς πολυκωκύτους εἰς Ἄϊδαο δόμους,  
 οὐδέποτ' οὐδέ θανῶν ἀπολεῖς κλέος, ἀλλὰ μελήσεις  
 ἄφθιτον ἀνθρώποις αἰὲν ἔχων ὄνομα,  
 Κύρνε, καθ' Ἑλλάδα γῆν στρωφόμενος ἠδ' ἀνὰ νήσους,  
 ἰχθυόεντα περῶν πόντον ἐπ' ἀτρύγετον,  
 οὐχ ἵππων νώτοισιν ἐφήμενος· ἀλλὰ σε πέμψει  
 ἀγλαὰ Μουσάων δῶρα ἰσοτεφάνων·  
 πᾶσι δ', ὅσοισι μέμηλε, καὶ ἔσσομένοισιν αἰοιδῆ  
 ἔσση ὁμῶς, ὄφρ' ἂν γῆ τε καὶ ἠέλιος·  
 αὐτὰρ ἐγὼν ὀλίγησ παρα σεῦ ἐπιτυγχάνω αἰδοῦς,  
 ἀλλ' ὥσπερ μικρὸν παῖδα λόγοις μ' ἀπατᾶς.

Theognis.

3. *Democratic Equality.*

Τῶν δούλων δ' αὖ καὶ τῶν μετοίκων πλείστη ἐστὶν  
 Ἀθήνησιν ἀκολασία, καὶ οὔτε πατάξαι ἕξεισιν αὐτόθι, οὔτε  
 ὑπεκστήσεται σοι ὁ δοῦλος. οὐδ' ἔνεκέν ἐστι τοῦτο ἐπιχώριον  
 ἐγὼ φράσω. εἰ νόμος ἦν τὸν δοῦλον ὑπὸ τοῦ ἐλευθέρου  
 τύπτεσθαι ἢ τὸν μέτοικον ἢ τὸν ἀπελευθέρων, πολλάκις ἂν  
 οἰθηεῖς εἶναι τὸν Ἀθηναῖον δοῦλον ἐπάταξεν ἂν. ἐσθῆτά τε  
 γὰρ οὐδὲν βελτίω ἔχει ὁ δῆμος αὐτόθι ἢ οἱ δοῦλοι καὶ οἱ  
 μέτοικοι καὶ τὰ εἶδη οὐδὲν βελτίους εἰσίν. εἰ δέ τις καὶ τοῦτο  
 θαυμάζει ὅτι ἐῷσι τοὺς δούλους τρυφᾶν αὐτόθι καὶ μεγαλοπ-  
 ρεπῶς διαιτᾶσθαι ἐπίουσι, καὶ τοῦτο γνώμη φανεῖεν ἂν  
 ποιούντες. ὅπου γὰρ ναυτικὴ δύναμις ἐστίν, ἀπὸ χρημάτων  
 ἀνάγκη τοῖς ἀνδραπόδοις δουλεύειν, ἵνα λαμβάνωμεν τὰς  
 ἀποφοράς, καὶ ἐλευθέρους ἀφιέναι· ὅπου δ' εἰσὶ πλούσιοι

δοῦλοι, οὐκέτι ἐνταῦθα λυσιτελεῖ τὸν ἕμὸν δοῦλον σὲ δεδιέναι· ἐν δὲ τῇ Λακεδαίμονι ὁ ἕμὸς δοῦλος σὲ δέδουκεν· ἂν δὲ δεδίῃ ὁ σὸς δοῦλος ἐμέ, κινδυνεύει καὶ τὰ χρήματα διδόναι τὰ ἑαυτοῦ ὥστε μὴ κινδυνεύειν περὶ ἑαυτοῦ. διὰ τοῦτο οὖν ἰσηγορίαν καὶ τοῖς δούλοις πρὸς τοὺς ἐλευθέρους ἐποιήσαμεν καὶ τοῖς μετοίκους πρὸς τοὺς ἀστούς, διότι δεῖται ἡ πόλις μετοίκων διὰ τε τὸ πλῆθος τῶν τεχνῶν καὶ διὰ τὸ ναυτικόν. διὰ τοῦτο οὖν καὶ τοῖς μετοίκους εἰκότως τὴν ἰσηγορίαν ἐποιήσαμεν.

The Old Oligarch.

#### 4. *The Eleatic Stranger describes Life in the Golden Age.*

ΞΕ. Καλῶς τῷ λόγῳ συμπαρηκολούθηκας. ὁ δ' ἦρου περὶ τοῦ πάντα αὐτόματα γίνεσθαι τοῖς ἀνθρώποις, ἥκιστα τῆς νῦν ἐστὶ καθεστηκυίας φορᾶς, ἀλλ' ἦν καὶ τοῦτο τῆς ἔμπροσθεν. τότε γὰρ αὐτῆς πρῶτον τῆς κυκλήσεως ἦρχεν ἐπιμελούμενος ὅλης ὁ θεός, ὡς δ' αὖ κατὰ τόπους ταῦτόν τοῦτο, ὑπὸ θεῶν ἀρχόντων πάντ' ἦν τὰ τοῦ κόσμου μέρη διειλημμένα· καὶ δὴ καὶ τὰ ζῶα κατὰ γένη καὶ ἀγέλας οἶον νομῆς θεοὶ διειλήφεσαν δαίμονες, αὐτάρκης εἰς πάντα ἕκαστος ἕκαστοῖς ὧν οἷς αὐτὸς ἔνεμεν, ὥστε οὔτ' ἄγριον ἦν οὐδὲν οὔτε ἀλλήλων ἐδωδαί, πόλεμός τε οὐκ ἔνῃν οὐδὲ στάσις τὸ παράπαν· ἀλλὰ θ' ὅσα τῆς τοιαύτης ἐστὶ κατακοσμήσεως ἐπόμενα, μυρία ἂν εἴη λέγειν. τὸ δ' οὖν τῶν ἀνθρώπων λεχθὲν αὐτομάτου πέρι βίου διὰ τὸ τοιόνδε εἴρηται. θεὸς ἔνεμεν αὐτοὺς αὐτὸς ἐπιστατῶν, καθάπερ νῦν ἄνθρωποι, ζῶον ὃν ἕτερον θεϊότερον, ἀλλὰ γένη φαυλότερα αὐτῶν νομεύουσι· νέμοντος δὲ ἐκείνου πολιτεῖαί τε οὐκ ἦσαν οὐδὲ κτήσεις γυναικῶν καὶ παιδῶν· ἐκ γῆς γὰρ ἀνεβιώσκοντο πάντες, οὐδὲν μεμνημένοι τῶν πρόσθεν· ἀλλὰ τὰ μὲν τοιαῦτα ἀπῆν πάντα, καρποὺς δὲ ἀφθόνοους εἶχον ἀπὸ τε δένδρων καὶ πολλῆς ἕλης ἄλλης, οὐχ ὑπὸ γεωργίας φυομένους, ἀλλ' αὐτομάτης ἀναδιδούσης τῆς γῆς. γυμνοὶ δὲ καὶ ἄστρωτοι θυραυλοῦντες τὰ πολλὰ ἐνέμοντο· τὸ γὰρ τῶν ὠρῶν αὐτοῖς ἄλυπον ἐκέκρατο, μαλακὰς δὲ εὐνάς

εἶχον ἀναφουμένης ἐκ γῆς πόας ἀφθόου. τὸν δὲ βίον, ὃ  
 Σώκρατες, ἀκούεις μὲν τὸν τῶν ἐπὶ Κρόνου· τόνδε δ' ὄν λόγος  
 ἐπὶ Διὸς εἶναι, τὸν νυνί, παρὼν αὐτὸς ἤσθησαι· κρῖναι δ'  
 αὐτοῖν τὸν εὐδαιμονέστερον ἄρ' ἂν δύναίό τε καὶ ἐθελήσας;

Plato: Politicus.

## 2. GREEK PROSE.

1. The approach of night, though it delivered the dejected Spaniards from the attacks of the enemy, ushered in, what was hardly less grievous, the noise of their barbarous triumph, and of the horrid festival with which they celebrated their victory. Every quarter of the city was illuminated; the great temple shone with such splendour, that the Spaniards could plainly see the people in motion, and the priests busy in hastening preparations for the death of the prisoners. Through the gloom they fancied that they discerned their companions by the whiteness of their skins, as they were stript naked and compelled to dance before the image of the god to whom they were to be offered. They heard the shrieks of those who were sacrificed, and thought that they could distinguish each victim by the well-known sound of his voice.

2. It can hardly be denied that men are usually so weak that it is absolutely necessary for them to know sorrow and pain in order to be in their right senses. Prosperous people (for happy there are none) are hurried away with a fond sense of their present condition, and thoughtless of the mutability of fortune. Fortune is a term which we must use in such discourses as these for what is wrought by the unseen hand of the Disposer of all things. But methinks the disposition of a mind which is truly great is that which makes misfortunes and sorrows little when they befall ourselves, great and lamentable when they befall other men.

## 3. GREEK—PREPARED BOOKS (A).

A.—*Aristophanes: Frogs.*

### 1. Translate and comment on—

(a) χῶρει νυν πᾶς ἀνδρείως  
 ἐς τοὺς εὐανθεῖς κόλπους  
 λειμώνων ἐγκρούων

καπισκώπτων  
καὶ παίζων καὶ χλευάζων.  
ἡρίστηται δ' ἐξαρκούντως.  
ἀλλ' ἔμβα χῶπως ἀρεῖς  
τὴν Σώτειραν γενναίως  
τῇ φωνῇ μολπάζων,  
ἢ τὴν χώραν  
σώζειν φήσ' ἐς τὰς ὥρας,  
κἂν Θωρυκίων μὴ βούληται.

- (b) καὶ γὰρ αἰσχρὸν ἐστὶ τοὺς μὲν ναυμαχῆσαντας μίαν  
καὶ Πλαταιᾶς εὐθὺς εἶναι κἂντι δούλων δεσπότας—  
κοῦδὲ ταῦτ' ἔγωγ' ἔχοιμ' ἂν μὴ οὐ καλῶς φάσκειν  
ἔχειν,  
ἀλλ' ἐπαινῶ· μόνα γὰρ αὐτὰ νοῦν ἔχοντ' ἐδράσατε—  
πρὸς δὲ τούτοις εἰκὸς ὑμᾶς, οἳ μεθ' ὑμῶν πολλὰ δὴ  
χοῖ πατέρες ἐναυμάχησαν καὶ προσήκουσιν γένει,  
τὴν μίαν ταύτην παρεῖναι ξυμφορὰν αἰτουμένοις.  
ἀλλὰ τῆς ὀργῆς ἀνέντες, ὧ σοφώτατοι φύσει,  
πάντας ἀνθρώπους ἐκόντες συγγενεῖς κτησώμεθα  
καπιτίμους καὶ πολίτας, ὅστις ἂν ξυνναυμαχῇ.
- (c) ἢ που δεινὸν ἐριβρεμέτας χόλον ἔνδοθεν ἔξει,  
ἢνίκ' ἂν ὀξυδάλου παρίδη θήγοντος ὀδόντας  
ἀντιτέχνου· τότε δὴ μανίας ὑπὸ δεινῆς ὄμματα στρο-  
βήσεται.  
ἔσται δ' ἵππολόφων τε λόγων κορυθαίολα νείκη,  
σκινδαλάμων τε παραξόνια, σμιλεύματά τ' ἔργων  
φωτὸς ἀμυνομένου φρενοτέκτονος ἀνδρὸς ῥήμαθ'  
ἵπποβάμονα.
- (d) βούλομαι δ' ἔτι  
τὸν τῶν μονωδιῶν διεξελλθεῖν τρόπον.  
ὦ Νυκτὸς κελαινοφαῆς  
ὄρφνα, τίνα μοι  
δύστανον ὄνειρον  
πέμπεις ἐξ ἀφανοῦς,



Ἄττα πρόμολον,  
 ψυχὰν ἄψυχον ἔχοντα,  
 μελαίνας Νυκτὸς παῖδα,  
 φρικώδη δεινὰν ὄψιν,  
 μελανοκεκείμονα,  
 φόνια φόνια δερκόμενον,  
 μεγάλους ὄνυχας ἔχοντα;

2. "Aristophanes was the most unreasoning 'laudator temporis acti.'" (*Merry.*)

Discuss this judgment with special reference to the *Frogs*.

*Theocritus.*

1. Translate and comment on—

(a) ἦ ρά οἱ ἀλλᾶ  
 ὄχετ' ἔχων ὅ τ' Ἔρως ταχινὰς φρένας ἄ τ' Ἀφροδίτα;  
 βασεῦμαι ποτὶ τὰν Τιμαγήτοιο παλαίστραν  
 αὔριον, ὡς νιν ἴδω, καὶ μέμφομαι οἶά με ποιεῖ.  
 νῦν δέ νιν ἐκ θυέων καταθύσομαι. ἀλλὰ Σελάνα,  
 φαῖνε καλόν· τὴν γὰρ ποταεῖσομαι ἄσυχρα, δαῖμον,  
 τᾶ χθονία θ' Ἐκάτα, τὰν καὶ σκύλακες τρομέοντι  
 ἐρχομένην νεκύων ἀνά τ' ἠρία καὶ μέλαν αἶμα.

(b) ΠΡΑΞΙΝΟΑ—

πὸτ τῷ Διός, εἴτι γένοιο  
 εὐδαίμων ὠνθρωπε, φυλάσσεο τῷμπέχονόν μεν.

ΞΕΝΟΣ—

οὐκ ἐπ' ἐμὴν μέν, ὅμως δὲ φυλαξεῦμαι·

ΠΡΑΞΙΝΟΑ—

ὄχλος ἄθρως.  
 ὠθεῦνθ' ὡσπερ ὕες.

ΞΕΝΟΣ—

θάρσει γύναι· ἐν καλῷ εἰμέε.

## ΠΡΑΞΙΝΟΑ—

κείσ ὥρας κῆπειτα φίλ' ἀνδρῶν ἐν καλῷ εἴῃσ  
 ἄμμε περιστέλλων. χρηστῷ κῶκτίρμονος ἀνδρός.  
 φλίβεται Εὐνόα ἄμιν. ἄγ' ὦ δειλὰ τὴν βιάζεν.  
 κάλλιστ'· ἔνδοι πᾶσαι, ὁ τὰν νυδὸν εἶπ' ἀποκλάξας.

- (c) Ὡς φαμένα δίνασε σάκος μέγα· τοὺς δ' ἔλαβ' ὕπνος.  
 ἄμος δὲ στρέφεται μεσονύκτιον ἐς δύσιν ἄρκτος  
 Ὠρίωνα κατ' αὐτόν, ὁ δ' ἀμφαίνει μέγαν ἄμον,  
 τᾶμος ἄρ' αἰνὰ πέλωρα δύω πολυμήχανος Ἡρη  
 κυανέαισ φρίσσοντασ ὑπὸ σπείραισι δράκοντασ  
 ὤρσεν ἐπὶ πλατὺν οὐδόν, ὅθι σταθμὰ κοἴλα θυράων  
 εἶκεν, ἀπειλήσασα φαγεῖν βρέφος Ἡρακλῆα.  
 τῷ δ' ἐξείληθέντεσ ἐπὶ χθονὶ γαστέρας ἄμφω  
 αἰμοβόρουσ ἐκύλιον· ἀπ' ὀφθαλμῶν δὲ κακὸν πῦρ  
 ἐρχομένοισ λάμπεσκε, βαρὺν δ' ἐξέπτυνον ἰόν.
- (d) Ἀστοῖσ καὶ ξείνοισιν ἴσον νέμει ἦδε τράπεζα·  
 θεῖσ ἀνελοῦ ψήφου πρὸσ λόγον ἐρχομένησ.  
 ἄλλόσ τισ πρόφασιν λεγέτω· τὰ δ' ὀθνεῖα Κάικου  
 χρήματα καὶ νυκτὸσ βουλομένοισ ἀριθμεῖ.

2. Estimate the importance of Theocritus in literary history.

## B.—Herodotus: Book VI.

1. Translate and comment on—

(a) Ταῦτα μὲν τὰ ἐμπολέμια, τὰ δὲ ἄλλα τὰ εἰρηναῖα  
 κατὰ τὰδε σφί δέδοται· ἦν θυσίη τισ δημοτελῆσ ποιῆται,  
 πρῶτουσ ἐπὶ τὸ δεῖπνον ἕζειν τοὺσ βασιλέασ καὶ ἀπὸ τούτων  
 πρῶτον ἄρχεσθαι, διπλήσια νέμοντασ ἑκατέρω τὰ πάντα ἢ  
 τοῖσι ἄλλοισι δαιτυμόσι· καὶ σπονδαρχίασ εἶναι τούτων καὶ  
 τῶν τυθέντων τὰ δέρματα. τὰσ δὲ μαντηγίασ τὰσ γνωμόνασ  
 τούτουσ φυλάσσειν, συνειδέναι δὲ καὶ τοὺσ Πυθίοουσ· δικάζων  
 δὲ μούνουσ τοὺσ βασιλέασ τοσάδε μούνα· πατριωούχου τε  
 παρθένου πέρι, ἐσ τὸν ἰκνεῖται ἔχειν, ἦν μὴ περ ὁ πατήρ αὐτῆν

ἐγγυήση, καὶ ὀδῶν δημοσιῶν πέρι· καὶ ἦν τις θετὸν παῖδα ποιεῖσθαι ἐθέλη, βασιλέων ἐναντίον ποιεῖσθαι· καὶ παρίζειν βουλευούσι τοῖσι γέρουσι, ἐοῦσι δυῶν δέουσι τριήκοντα. ἦν δὲ μὴ ἔλθωσι, τοῦς μάλιστα σφι τῶν γερόντων προσηκοντας ἔχειν τὰ τῶν βασιλέων γέρεα, δύο ψήφους τιθεμένους, τρίτην δὲ τὴν ἑωυτῶν.

(b) ἐνθαῦτα δὴ οἱ Ἄργεῖοι τὴν μὲν ἐκ τοῦ φανεροῦ μάχην οὐκ ἐφοβέοντο, ἀλλὰ μὴ δόλω αἰρεθέωσι. καὶ γὰρ δὴ σφι ἐς τοῦτο τὸ πρῆγμα εἶχε τὸ χρηστήριον, τὸ ἐπίκουα ἔχρησε ἡ Πυθίη τοῦτοισί τε καὶ Μιλησίοισι λέγον ὧδε·

ἀλλ' ὅταν ἡ θήλεια τὸν ἄρσενά νικήσασα  
ἐξελάσῃ καὶ κῦδος ἐν Ἄργείοισιν ἄρηται,  
πολλὰς Ἄργείων ἀμφιδρυφέας τότε θήσει.  
ὡς ποτέ τις ἔρέει καὶ ἐπεσσομένων ἀνθρώπων·  
δεινὸς ὄφρις τριέλικτος ἀπώλετο δουρὶ δαμασθεῖς.

ταῦτα δὴ πάντα συνελθόντα τοῖσι Ἄργείοισι φόβον παρέιχε.

(c) Τοῖσι δὲ Ἀθηναίων στρατηγοῖσι ἐγίνοντο δίχα αἰ γνῶμαι, τῶν μὲν οὐκ ἐόντων συμβαλεῖν, ὀλίγους γὰρ εἶναι στρατιῇ τῇ Μήδων [συμβάλλειν], τῶν δὲ καὶ Μιλτιάδεω κελεύοντων. ὡς δὲ δίχα τε ἐγίνοντο καὶ ἐνίκα ἡ χείρων τῶν γνωμῶν, ἐνθαῦτα, ἦν γὰρ ἐνδέκατος ψηφιδοφόρος ὁ τῷ κυάμφ λαχὼν Ἀθηναίων πολεμαρχεῖν (τὸ παλαιὸν γὰρ Ἀθηναῖοι ὁμόψηφον τὸν πολέμαρχον ἐποιέοντο τοῖσι στρατηγοῖσι), ἦν δὲ τότε πολέμαρχος Καλλίμαχος Ἀφιδναῖος, πρὸς τοῦτον ἐλθὼν Μιλτιάδης ἔλεγε τάδε· Ἐν σοὶ νῦν, Καλλίμαχε, ἐστὶ ἡ καταδουλώσαι Ἀθήνας ἢ ἐλευθέρας ποιήσαντα μνημόσυνον λιπέσθαι ἐς τὸν ἅπαντα ἀνθρώπων βίον οἷον οὐδὲ Ἀρμοδιός τε καὶ Ἀριστογείτων [λείπουσι].

2. What are the chief points of difference between Herodotus and a modern historian? Use Book VI to illustrate your answer.

Or—

Give some account of the dialect employed by Herodotus.

## 4. GREEK—PREPARED BOOKS (B).

A.—*Aeschylus: Agamemnon.*

## 1. Translate—

ἄλλ' ἐναισίμωσ  
 αἰνεῖν, παρ' ἄλλων χρὴ τόδ' ἔρχεσθαι γέρας·  
 καὶ τᾶλλα μὴ γυναικὸς ἐν τρόποις ἐμὲ  
 ἄβρυνε μηδὲ βαρβάρου φωτὸς δίκην  
 χαμαιπετεὺς βόαμα προσχάνης ἐμοί,  
 μηδ' εὔμασι στρώσασ' ἐπίφθονον πόρον  
 τίθει· θεοὺς τοι τοῖσδε τιμαλφεῖν χρεῶν·  
 ἐν ποικίλοις δὲ θνητὸν ὄντα κάλλεσιν  
 βαίνειν ἐμοὶ μὲν οὐδαμῶς ἄνευ φόβου.  
 λέγω κατ' ἄνδρα, μὴ θεόν, σέβειν ἐμέ.  
 χωρὶς ποδοψήστρων τε καὶ τῶν ποικίλων  
 κληδῶν αὔτεϊ· καὶ τὸ μὴ κακῶς φρονεῖν  
 θεοῦ μέγιστον δῶρον. ὀλβίσαι δὲ χρὴ  
 βίον τελευτήσαντ' ἐν εὐεστοῖ φίλῃ.  
 εἰ πάντα δ' ὡς πράσσοιμ' ἄν, εὐθαρσῆς ἐγώ.

## 2. Translate and write notes on the text, meaning, and subject matter—

(a) τόσον περ εὐφρων, καλά,  
 δρόσοισι λεπτοῖς μαλερῶν λεόντων  
 πάντων τ' ἀγρονόμων φιλομάστοις  
 θηρῶν ὀβρικόλοισι τερπνά,  
 τούτων αἶνει ξύμβολα κρᾶναι,  
 δεξιὰ μὲν, κατάμομφα δὲ φάσματα [στρουθῶν].  
 140-145.

140 ἄ καλά Fa. 141 δρόσοισιν ἀέλλποις M: δρόσοισιν  
 ἀέπτοις Fl. ὄντων M. 144 αἰτεῖ MSS.

(b) παλαίφατος δ' ἐν βροτοῖς γέρων λόγος  
 τέτυκται, μέγαν τελεσ-  
 θέντα φωτὸς ὄλβον  
 τεκνοῦσθαι μηδ' ἄπαιδα θνήσκειν,  
 ἐκ δ' ἀγαθᾶς τύχης γένει

βλαστάνειν ἀκόρεστον οἰζύν.  
 δίχα δ' ἄλλων μονόφρων εἰ-  
 μί. τὸ δυσσεβές γὰρ ἔργον  
 μετὰ μὲν πλείονα τίκτει,  
 σφετέρῃ δ' εἰκότα γέννα.  
 οἴκων δ' ἄρ' εὐθυδίκων  
 καλλίπαις πότμος αἰεί.

- (c) ἰὼ ἰὼ λιγείας μόρον ἀηδόνος·  
 περίβαλον γὰρ οἱ πτερόφορον δέμας  
 θεοὶ γλυκύν τ' αἰῶνα κλαυμάτων ἄτερ·  
 ἐμοὶ δὲ μίμνει σχισμὸς ἀμφήκει δορί.
- (d) οὐ μὴν ἄτιμοί γ' ἐκ θεῶν τεθνήξομεν.  
 ἦξει γὰρ ἡμῶν ἄλλος αὖ τιμάορος,  
 μητροκτόνον φίτυμα, πονιάτωρ πατρός·  
 φυγὰς δ' ἀλήτης τῆσδε γῆς ἀπόξενος  
 κάτεισιν, ἄσας τάσδε θριγκώσων φίλοις·  
 ὁμώμοται γὰρ ὄρκος ἐκ θεῶν μέγας  
 πράξειν νῦν ὑπτίασμα κειμένου πατρός. 1279-1285.  
 1285 ἄξειν MSS.

*B.—Thucydides, Book VII.*

1. Translate and comment on—

(a) ἔτυχε δὲ κατὰ τοῦτο τοῦ καιροῦ ἐλθὼν ἐν ᾧ ἑπτὰ μὲν ἢ ὀκτὼ σταδίων ἤδη ἀπετετέλεστο τοῖς Ἀθηναίοις ἐς τὸν μέγαν λιμένα διπλοῦν τείχος, πλὴν κατὰ βραχύ τι τὸ πρὸς τὴν θάλασσαν (τοῦτο δ' ἔτι ᾧκοδόμουν). τῷ δὲ ἄλλῳ <ἄνω> τοῦ κύκλου πρὸς τὸν Τρώγιλον ἐπὶ τὴν ἑτέραν θάλασσαν λίθοι τε παραβεβλημένοι τῷ πλέονι ἤδη ἦσαν, καὶ ἔστιν ἂ καὶ ἡμίεργα, τὰ δὲ καὶ ἐξειργασμένα κατελέλειπτο. παρὰ τοσοῦτον μὲν Συράκουσαι ἦλθον κινδύνου.

(b) ἂ ἐπιστάμενος τῷ μὲν ἔργῳ ἔτι ἐπ' ἀμφότερα ἔχων καὶ διασκοπῶν ἀνεῖχε, τῷ δ' ἐμφανεῖ τότε λόγῳ οὐκ ἔφη ἀπάξειν τὴν στρατιάν. εὖ γὰρ εἰδέναι ὅτι Ἀθηναῖοι σφῶν ταῦτα οὐκ ἀποδέξονται ὥστε μὴ αὐτῶν ψηφισαμένων ἀπελθεῖν.

καὶ γὰρ οὐ τοὺς αὐτοὺς ψηφιεῖσθαι τε περὶ τῶν αὐτῶν καὶ τὰ πράγματα ὡσπερ καὶ αὐτοὶ ὀρώντας καὶ οὐκ ἄλλων ἐπιτιμήσει ἀκούοντας γνῶσεσθαι, ἀλλ' ἐξ ὧν ἂν τις εὖ λέγων διαβάλλῃ, ἐκ τούτων αὐτοὺς πείσεσθαι.

(c) ἀξιῶν τό τε καθ' ἑαυτόν, ᾧ ὑπῆρχε λαμπρότητός τι, μὴ προδιδόναι τινὰ καὶ τὰς πατρικὰς ἀρετάς, ὧν ἐπιφανεῖς ἦσαν οἱ πρόγονοι, μὴ ἀφανίζεω, πατρίδος τε τῆς ἐλευθερωτάτης ὑπομμνήσκων καὶ τῆς ἐν αὐτῇ ἀνεπιτάκτου πάσιν ἐς τὴν δίαιταν ἐξουσίας, ἄλλα τε λέγων ὅσα ἐν τῷ τοιοῦτῳ ἤδη τοῦ καιροῦ ὄντες ἄνθρωποι οὐ πρὸς τὸ δοκεῖν τινι ἀρχαιολογεῖν φυλαξάμενοι εἶποιεν ἂν, καὶ ὑπὲρ ἀπάντων παραπλήσια ἐς τε γυναικάς καὶ παῖδας καὶ θεοὺς πατρώους προφερόμενα, ἀλλ' ἐπὶ τῇ παρουσίᾳ ἐκπλήξει ὠφέλιμα νομίζοντες ἐπιβοῶνται.

2. ἤκιστα δὴ ἄξιος ὧν τῶν γε ἐπ' ἐμοῦ Ἑλλήνων ἐς τοῦτο δυστυχίας ἀφικέσθαι.

Discuss the view that Thucydides presents to us of Nicias.

*C.—Demosthenes: De Corona.*

1. Translate and comment on—

(a) ὁ δὲ ταύτης τῆς πίστεως αὐτῷ συνεργὸς καὶ συναγωνιστῆς, καὶ ὁ δεῦρ' ἀπαγγείλας τὰ ψευδῆ καὶ φενακίσας ὑμᾶς, οὐτός ἐστιν ὁ τὰ Θηβαίων ὀδυρόμενος νῦν πάθη καὶ διεξιῶν ὡς οἰκτρὰ, καὶ τούτων καὶ τῶν ἐν Φωκεῦσι κακῶν καὶ ὅς' ἄλλα πεπόνθασιν οἱ Ἕλληνες ἀπάντων αὐτὸς ὧν αἴτιος. δηλον γὰρ ὅτι σὺ μὲν ἀλγείς ἐπὶ τοῖς συμβεβηκόσιν, Αἰσχίνῃ, καὶ τοὺς Θηβαίους ἐλεεῖς, κτήμ' ἔχων ἐν τῇ Βοιωτίᾳ καὶ γεωργῶν τὰ ἐκείνων, ἐγὼ δὲ χαίρω, ὃς εὐθὺς ἐξηπούμην ὑπὸ τοῦ ταῦτα πράξαντος.

(b) Τί οὖν ταῦτ' ἐπήραμαι καὶ διετεινάμην οὕτως ἰσχυρῶς; ὅτι γράμματ' ἔχων ἐν τῷ δημοσίῳ κείμενα, ἐξ ὧν ταῦτ' ἐπιδείξω σαφῶς, καὶ ὑμᾶς εἰδὼς τὰ πεπραγμένα μνημονεύσοντας, ἐκεῖνο φοβοῦμαι, μὴ τῶν εἰργασμένων αὐτῷ κακῶν ὑποληφθῆ οὗτος ἐλάττων· τὸν γὰρ ἐν Ἀμφίση πόλεμον, δι' ὃν εἰς Ἑλλάτιαν ἦλθε Φίλιππος, καὶ δι' ὃν ἤρέθη τῶν

Ἀμφικτυόνων ἡγεμῶν ὃς ἅπαντ' ἀνέτρεψε τὰ τῶν Ἑλλήνων, οὗτός ἐστιν ὁ συγκατασκευάσας καὶ πάντων εἰς ἀνὴρ μεγίστων αἴτιος κακῶν.

(c) εἶτα καὶ προσήκειν [ἤγγησαντο] τὸν ἐροῦντ' ἐπὶ τοῖς τετελευτηκόσι καὶ τὴν ἐκείνων ἀρετὴν κοσμήσοντα μῆθ' ὀμωρόφιον μῆθ' ὀμόσπονδον γεγενημένον εἶναι τοῖς πρὸς ἐκείνους παραταξαμένοις, μῆδ' ἐκεῖ μὲν κωμάζειν καὶ παιωνίζεω ἐπὶ ταῖς τῶν Ἑλλήνων συμφοραῖς μετὰ τῶν αὐτοχείρων τοῦ φόνου δεῦρο δ' ἐλθόντα τιμᾶσθαι, μῆδὲ τῇ φωνῇ δακρύειν ὑποκρινόμενον τὴν ἐκείνων τύχην, ἀλλὰ τῇ ψυχῇ συναλαγεῖν. τοῦτο δ' ἐύρων παρ' ἑαυτοῖς καὶ παρ' ἑμοί, παρὰ δ' ὑμῶν οὐ. διὰ ταῦτ' ἔμ' ἐχειροτόνησαν καὶ οὐχ ὑμᾶς.

2. To what qualities does the speech De Corona owe its reputation as a masterpiece of oratory?

#### 5. LATIN—UNSEEN TRANSLATION.

Translate—

1. "Primitive Man."

quod cuique obtulerat praedae fortuna, ferebat  
sponte sua sibi quisque valere et vivere doctus.  
et manuum mira freti virtute pedumque  
consectabantur silvestria saecula ferarum  
missilibus saxis et magno pondere clavae.  
multaque vincebant, vitabant pauca latebris ;  
saetigerisque pares subus silvestria membra  
nuda dabant terrae, nocturno tempore capti,  
circum se foliis ac frondibus involventes.  
nec plangore diem magno solemque per agros  
quaerebant pavidi palantes noctis in umbris,  
sed taciti respectabant somnoque sepulti,  
dum rosea face sol inferret lumina caelo :  
a parvis quod enim consuerant cernere semper  
alterno tenebras et lucem tempore gigni,  
non erat ut fieri possent mirarier umquam  
nec diffidere, ne terras aeterna teneret  
nox in perpetuum detracto lumine solis.  
sed magis illud erat curae, quod saecula ferarum  
infestam miseris faciebant saepe quietem.

Lucretius.

2.           *"A Plea against Revenge."*

at vindicta bonum vita iucundius ipsa,  
nempe hoc indocti, quorum praeordia nullis  
interdum aut levibus videas flagrantia causis.

Chrysippus non dicet idem nec mite Thaletis  
ingenium dulcique senex vicinus Hymetto,  
qui partem acceptae saeva inter vincla cicutaë  
accusatori nollet dare. plurima felix  
paulatim vitia atque errores exuit omnes,  
prima docet rectum sapientia. quippe minuti  
semper et infirmi est animi exiguique voluptas  
ultio. continuo sic collige, quod vindicta  
nemo magis guadet quam femina. cur tamen hos tu  
evasisse putes, quos diri conscia facti  
mens habet attonitos et surdo verberere caedit  
occultum quatiente animo tortore flagellum ?  
poena autem vehemens ac multo saevior illis  
quas et Caedicius gravis invenit et Rhadamanthus,  
nocte dieque sum gestare in pectore testem.

Juvenal.

3.           *"Wander-Thirst."*

iam ver egelidos refert tepores,  
iam caeli furor aequinoctialis  
iucundis Zephyri silescit auris,  
linquantur Phrygii, Catulle, campi  
Nicaeaeque ager uber aestuosae :  
ad claras Asiae volemus urbes.  
iam mens praetrepidans avet vagari,  
iam laeti studio pedes vigescunt,  
o dulces comitum valetate coetus,  
longe quos simul a domo profectos  
diversae variae viae reportant.

Catullus.

4.           *"How far should faith be kept."*

at enim ne iratus quidem Iuppiter plus Regulo nocuisset  
quam sibi nocuit ipse Regulus. certe, si nihil malum esset nisi  
dolere. id autem non modo non summum malum, sed ne malum  
quidem esse maxima auctoritate philosophi adfirmant. quorum



quidem testem non mediocrem, sed haud scio an gravissimum Regulum nolite, quaeso, vituperare. quem enim locupletio- rem quaerimus quam principem populi Romani, qui retinendi officii causa cruciatum subierit voluntarium? nam quod aiunt, 'minima de malis,' id est, ut turpiter potius quam calamitose, an est ullum maius malum turpitudine? quae si in deformitate corporis habet aliquid offensionis, quanta illa depravatio et foeditas turpificati animi debet videri! itaque nervosius qui ista disserunt solum audent malum dicere id quod turpe sit, qui autem remissius, hi tamen non dubitant summum malum dicere. nam illud quidem,

neque dedi neque do infideli cuiquam,

idcirco recte a poeta, quia, cum tractaretur Atreus, personae serviendum fuit. sed si hoc sibi sument, nullam esse fidem quae infideli data sit, videant ne quaeratur latebra periurio. est ius etiam bellicum fidesque iuris iurandi saepe cum hoste servanda. quod enim ita iuratum est, ut mens conciperet fieri oportere, id servandum est: quod aliter, id si non fecerit, nullum est periurium. ut, si praedonibus pactum pro capite pretium non attuleris, nulla fraus est, ne si iuratus quidem id non feceris. nam pirata non est ex perduellium numero definitus, sed communis hostis omnium. Cicero.

##### 5. "Ability distinguished from Precocity."

tradito sibi puero docendi peritus ingenium eius in primis naturamque perspiciat. ingenii signum in parvis praecipuum memoria est. eius duplex virtus, facile percipere et fideliter continere. proximum imitatio; nam id quoque est docilis naturae, sic tamen, ut ea quae discit effingat, non habitum forte et ingressum et si quid in peius notabile est. non dabit mihi spem bonae indolis, qui hoc imitandi studio petet, ut rideatur. nam probus quoque in primis erit ille vere ingeniosus; alioqui non peius duxerim tardi esse ingenii quam mali. probus autem ab illo segni et iacente plurimum aberit. hic meus quae tradentur non difficulter accipiet, quaedam etiam interrogabit, sequetur tamen magis quam praecurret. illud ingenicrum velut praecox genus non temere unquam pervenit ad frugem. hi sunt, qui parva facile faciunt et audacia proveci, quicquid illud possunt, statim ostendunt. possunt autem id demum, quod in proximo est; verba continuant, haec, vultu interrito, nulla tardati verecundia proferunt.

non multum praestant sed cito. non subest vera vis nec penitus inmissis radicibus nititur, ut, quæ summo solo sparsa sunt semina, celerius se effundunt, et imitatae spicas herbulæ inanibus aristis ante messem flavescunt. placent hæc annis comparata ; deinde stat profectus, admiratio decrescit.

Quintilian.

## 6. LATIN PROSE.

While the East anxiously expected the decision of this great contest, the emperor Diocletian, having assembled in Syria a strong army of observation, displayed from a distance the resources of the Roman power, and reserved himself for any future emergency of the war. On the intelligence of the victory, he condescended to advance towards the frontier, with a view of moderating, by his presence and counsels, the pride of Galerius. The interview of the Roman princes at Nisibis was accompanied with every expression of respect on one side, and of esteem on the other. It was in that city that they soon afterwards gave audience to the ambassador of the Great King. The power, or at least the spirit, of Narses, had been broken by his last defeat; and he considered an immediate peace as the only means that could stop the progress of the Roman arms. He dispatched Apharban, a servant who possessed his favour and confidence, with a commission to negotiate a treaty, or rather to receive whatever conditions the conqueror should impose. Apharban opened the conference by expressing his master's gratitude for the generous treatment of his family, and by soliciting the liberty of those illustrious captives. He celebrated the valour of Galerius, without degrading the reputation of Narses, and thought it no dishonour to confess the superiority of the victorious Cæsar over a monarch who had surpassed in glory all the princes of his race. Notwithstanding the justice of the Persian cause, he was empowered to submit the present differences to the decision of the emperors themselves. convinced as he was that, in the midst of prosperity, they would not be unmindful of the vicissitudes of fortune. Apharban concluded his discourse in the style of Eastern allegory, by observing that the Roman and Persian monarchies were the two eyes of the world, which would remain imperfect and mutilated, if either of them should be put out.

## 7. LATIN—PREPARED BOOKS (A).

*Livy : Book IX.*

## 1. Translate and comment on—

(a) Cum apparitor verecundia maiestatis Postumi laxè vinciret, “quin tu” inquit “adducis lorum, ut iusta fiat deditio?” tum ubi in coetum Samnitium et ad tribunal ventum Pontii est, A. Cornelius Arvina fetialis ita verba fecit : “ quandoque hisce homines iniussu populi Romani Quiritium foedus ictum iri sponderunt atque ob eam rem noxam nocuerunt, ob eam rem, quo populus Romanus scelere impio sit solutus, hosce homines vobis dedo.” haec dicenti fetiali Postumius genu femur quanta maxime poterat vi perculit et clara voce ait se Samnitē civem esse, illum legatū fetialem a se contra ius gentium violatū : eo iustius bellum gesturos.

(b) Absit invidia verbo et civilia bella sileant : numquam ab equite hoste, numquam a pedite, numquam aperta acie, numquam aequis, utique numquam nostris locis laboravimus ; equitem, sagittas, saltus inpeditos, avia com meatibus loca gravis armis miles timere potest : mille acies graviores quam Macedonum atque Alexandri avertit avertetque, modo sit perpetuus huius, qua vivimus, pacis amor et civilis cura concordiae.

(c) “ Ego te, Ap. Claudii, pro istius magistratus maiestate ac verecundia, quem gessisti, non modo manu violatum, sed ne verbo quidem inclementiori a me appellatum vellem ; sed et haec, quae adhuc egi, pervicacia tua et superbia coegit me loqui, et, nisi Aemiliae legi parueris, in vincula duci iubebo nec, cum ita comparatum a maioribus sit, ut comitiis censoriis, nisi duo confecerint legitima suffragia, non renuntiato altero comitia differantur, ego te, qui solus censor creari non possis, solum censuram gerere patiar.”

(d) Civile ius, repositum in penetralibus pontificum, evulgavit fastosque circa forum in albo proposuit, ut, quando lege agi posset, sciretur ; aedem Concordiae in area Vulcani summā invidia nobilium dedicavit.

2. "Quintilian writes: *Historia est proxima poetis et quodam modo carmen solutum, et scribitur ad narrandum non ad probandum.* These words are a fair description of Livy's work."

Explain and discuss this.

*Tacitus: Histories I.*

1. Translate and comment on—

(a) Non tamen adeo virtutum sterile saeculum, ut non et bona exempla prodiderit. comitatae profugos liberos matres, secutae maritos in exilia coniuges: propinqui audentes, constantes generi, contumax etiam adversus tormenta servorum fides; supremae clarorum virorum necessitates, ipsa necessitas fortiter tolerata et laudatis antiquorum mortibus pares exitus. praeter multiplices rerum humanarum casus caelo terraque prodigia et fulminum monitus et futurorum praesagia, laeta tristia, ambigua manifesta; nec enim umquam atrocioribus populi Romani cladibus magisve iustis indiciis adprobatum est non esse curae deis securitatem nostram, esse ultionem.

(b) Galbae corpus diu neglectum et licentia tenebrarum plurimis ludibriis vexatum dispensator Argius et primoribus servis humili sepultura in privatis eius hortis contexit. caput per lixas calonesque confixum laceratumque ante Patrobii tumulum (libertus is Neronis punitus a Galba fuerat) postera demum die repertum et cremato iam corpori admixtum est. hunc exitum habuit Servius Galba, tribus et septuaginta annis quinque principes prospera fortuna emensus et alieno imperio felicior quam suo. vetus in familia nobilitas, magnae opes: ipsi medium ingenium, magis extra vitia quam cum virtutibus.

(c) ceteri consulatus ex destinatione Neronis aut Galbae mansere, Caelio ac Flavio Sabinis in Iulias, Arrio Antonino et Mario Celso in Septembres, quorum honoribus ne Vitellius quidem victor interessit. sed Otho pontificatus auguratusque honoratis iam senibus cumulum dignitatis addidit, aut recens ab exilio reversos nobiles adulescentulos avitis ac paternis sacerdotiis in solacium recoluit. redditus Cadio Rufo, Pedio Blaeso, Saevino P\*\*\* senatorius locus. repetundarum criminibus sub Claudio ac Nerone ceciderant: placuit ignoscentibus verso nomine,

quod avaritia fuerat, videri maiestatem, cuius tum odio etiam bonae leges peribant.

2. Give a short account of the life and works of Tacitus. Indicate the evidence for the details you give of his life.

*Vergil: Georgics I and II.*

1. Translate and comment on—

- (a) mundus, ut ad Scythian Rhipaeasque arduus arces  
consurgit, premitur Libyae devexus in Austros.  
hic vertex nobis semper sublimis ; at illum  
sub pedibus Styx atra videt Manesque profundi.  
maximus hic flexu sinuoso elabitur Anguis  
circum perque duas in morcm fluminis Arctos,  
Arctos Oceani metuentes aequore tingui.  
illic, ut perhibent, aut intempesta silet nox  
semper et obtenta densentur nocte tenebrae ;  
aut redit a nobis Aurora diemque reducit,  
nosque ubi primus equis Oriens adflavit anhelis,  
illic sera rubens accendit lumina Vesper.
- (b) iuvat imbribus actis  
progeniem parvam dulcesque revisere nidos ;  
haud, equidem credo, quia sit divinitus illis  
ingenium aut rerum fato prudentia maior ;  
verum, ubi tempestas et caeli mobilis umor  
mutavere vias et Iuppiter uvidus Austris  
denset, erant quae rara modo, et, quae densa,  
relaxat,  
vertuntur species animorum, et pectora motus  
nunc alios, alios, dum nubila ventus agebat,  
concupiunt.
- (c) hic tibi praevalidas olim multoque fluentes  
sufficiet Baccho vites, hic fertilis uvae,  
hic laticis, qualem pateris libanius et auro,  
inflavit cum pinguis ebur Tyrrhenus ad aras,  
lancibus et pandis fumantia reddimus exta.  
sin armenta magis studium vitulosque tueri  
aut ovium fetum aut urentes culta capellas,  
saltus et saturi petito longinqua Tarenti,  
et qualem infelix amisit Mantua campum  
pascentem niveos herboso flumine cyenos.

- (d) si non ingentem foribus domus alta superbis  
 mane salutantum totis vomit aedibus undam,  
 nec varios inhiant pulchra testudine postes,  
 inlusasque auro vestes Ephyreïaque aera,  
 alba neque Assyrio fucatur lana veneno,  
 nec casia liquidi corrumpitur usus olivi ;  
 at secura quies et nescia fallere vita,  
 dives opum variarum, at latis otia fundis,  
 speluncae, vivique lacus, et frigida Tempe.

2. "The characteristic of the Georgics is indeed their consummate art."

Expand this statement.

### 8. LATIN—PREPARED BOOKS (B).

*Cicero : Pro Cornelio Sulla.*

1. Translate and comment on—

(a) Mei consulatus autem tempus et crimen maximae coniurationis a me defendetur. Atque haec inter nos partitio defensionis non est fortuito, iudices, nec temere facta, sed cum videremus eorum criminum nos patronos adhiberi, quorum testes esse possemus, uterque nostrum id sibi suscipiendum putavit, de quo aliquid scire ipse atque existimare potuisset.

(b) Sed tamen abs te, Torquate, quaero, cum indicatus tuus esset inimicus et esset eius rei frequens senatus et recens memoria testis, et tibi, meo familiari et contubernali, prius etiam edituri iudicium fuerint scribae mei, si voluisses, quam in codicem rettulissent : cum videres aliter referri, cur tacuisti, passus es, non mecum aut cum familiari meo questus es, aut, quoniam tam facile invehis in amicos, iracundius aut vehementius expostulasti ? Tu, cum tua vox numquam sit audita, cum iudicio lecto, descripto, divulgato quieveris tacueris, repente tantam rem ementiare et in eum locum te deducas, ut ante, quam me commutati iudici coargueris, te summæ negligentiae tuo iudicio convictum esse fateare ?

(c) Accusati sunt uno nomine consulares, ut iam videatur honoris amplissimi nomen plus invidiæ quam dignitatis

adferre. 'Adfuerunt' inquit 'Catilinae illumque laudarunt.' Nulla tum patebat, nulla erat cognita coniuratio; defendebant amicum, aderant supplici, vitae eius turpitudinem in summis eius periculis non insequabantur. Quin etiam parens tuus, Torquate, consul reo de pecuniis repetundis Catilinae fuit advocatus, improbo homini, at supplici, fortasse audaci, ~~at~~ aliquando amico.

2. De quo etiam si quis dubitasset antea num id, quod tu arguis, cogitasset, interfecto patre tuo consulem descendere Kalendis Ianuariis cum lictoribus, sustulisti hanc suspicionem, cum dixisti hunc, ut Catilinam consulem efficeret, contra patrem tuum operas et manum comparasse. Quod si tibi ego confitear, tu mihi concedas necesse est, hunc, cum Catilinae suffragaretur, nihil de suo consulatu, quem iudicio amiserat, per vim recuperando cogitavisse.

Pro Sulla, § 68.

Translate, and discuss in the light of the evidence furnished by other ancient authorities.

*Vergil: Aeneid I and II.*

1. Translate and comment on—

- (a) hunc tu olim caelo, spoliis Orientis onustum,  
accipies secura; vocabitur hic quoque votis.  
aspera tum positis mitescent saecula bellis;  
cana Fides et Vesta, Remo cum fratre Quirinus  
iura dabunt; dirae ferro et compagibus artis  
claudentur Belli portae; Furor impius intus  
saeva sedens super arma et centum vinctus aënis  
post tergum nodis fremet horridus ore cruento.
- (b) o sola infandos Troiae miserata labores,  
quae nos, reliquias Danaum, terraeque marisque  
omnibus exhaustos iam casibus, omnium egenos  
urbe domo socias, grates persolvere dignas  
non opis est nostrae, Dido, nec quidquid ubique  
gentis Dardaniae, magnum quae sparsa per orbem.  
di tibi, si qua pios respectant numina, si quid  
usquam iustitiae est, et mens sibi conscia recti  
praemia digna ferant.

- (c) inde, lupi ceu  
 raptores atra in nebula, quos inproba ventris  
 exegit caecos rabies, catulique relict  
 faucibus exspectant siccis, per tela, per hostes  
 vadimus haud dubiam in mortem, mediaeque  
 tenemus  
 urbis iter : nox atra cava circumvolat umbra.  
 quis cladem illius noctis, quis funera fando  
 explicet, aut possit lacrimis aequare labores ?  
 urbs antiqua ruit, multos dominata per annos :  
 plurima perque vias sternuntur inertia passim  
 corpora, perque domos et religiosa deorum  
 limina.
- (d) tum vero omne mihi visum considerare in ignes  
 Ilium, et ex imo verti Neptunia Troia ;  
 ac veluti summis antiquam in montibus ornum  
 cum ferro accisam crebrisque bipennibus instans  
 eruere agricolae certatim ; illa usque minatur  
 et tremefacta comam concusso vertice nutat,  
 vulneribus donec paulatim evicta supremum  
 congemuit traxitque iugis avulsa ruinam.

2. Illustrate Vergil's mastery of the hexameter.

Show wherein he excels his predecessors and successors  
 in the use of the metre.

*Quintilian X.*

1. Translate and comment on—

(a) Meminerimus tamen non per omnia poetas esse  
 oratori sequendos nec libertate verborum nec licentia figurarum :  
 poeticam ostentationi comparatam et praeter id quod solam  
 petit voluptatem, eamque etiam fingendo non falsa modo sed  
 etiam quaedam incredibilia sectatur, patrocínio quoque aliquo  
 iuvári, quod adligata ad certam pedum necessitatem non  
 semper uti propriis possit, sed depulsa recta via necessario ad  
 eloquendi quaedam deverticula confugiat, nec mutare quaedam  
 modo verba, sed extendere, conripere, convertere, dividere  
 cogatur : nos vero armatos stare in acie et summis de rebus  
 decernere et ad victoriam niti.

(b) Superest adhuc et exornat aetatis nostrae gloriam  
 vir saeculorum memoria dignus, qui olim nominabitur, nunc



intellegitur. Habet amatores nec immerito CREMUTI libertas, quanquam circumcisis quae dixisse ei nocuerat; sed elatum abunde spiritum et audaces sententias deprehendas etiam in his quae manent. Sunt et alii scriptores boni, sed nos genera degustamus, non bibliothecas excutimus.

(c) Neque enim rursus eos qui robur aliquod in stilo fecerint ad infelicem calumniandi se poenam adligandos puto. Nam quo modo sufficere officiis civilibus possit qui singulis actionum partibus insenescat? Sunt autem quibus nihil sit satis: omnia mutare, omnia aliter dicere quam occurrit velint,—increduli quidam et de ingenio suo pessime meriti, qui diligentiam putant facere sibi scribendi difficultatem.

(d) Est igitur usus quidam irrationalis, quam Graeci *ἄλογον τριβήν* vocant, qua manus in scribendo decurrit, qua oculi totos simul in lectione versus flexusque eorum et transitus intuentur et ante sequentia vident quam priora dixerunt. Quo constant miracula illa in scaenis pilariorum ac ventilatorum, ut ea quae emiserint ultro venire in manus credas et qua iubentur decurrere. Sed hic usus ita proderit, si ea de qua locuti sumus ars antecesserit, ut ipsum illud quod in se rationem non habet in ratione versetur.

2. Give a succinct account of education in the Early Empire. Show the importance of Quintilian as an educational reformer.

## 9. GREEK HISTORY.

### GENERAL.

**At least Three and not more than Four questions to be answered.**

1. What kind of polity do we find pictured in the Homeric poems? Compare or contrast Homeric kingship with the Roman and the Spartan kingships.
2. Give an account of Tyranny in Greece.
3. Trace the rise of democracy in Athens from Solon to the downfall of the Areiopagos.
4. Consider Sparta as a "military state."

5. Show clearly the distinctive features of Athenian democracy under Pericles.

6. Give some account of the constitution of the Lacedæmonian League. Briefly trace its history.

7. Consider the following as federal governments :—

(a) The Second Athenian League ;

(b) τὸ κοινὸν τῶν Ἀρκάδων ·

(c) The Achæan League.

8. Trace the changes in Greek methods of warfare from early times to Alexander the Great. How are these changes interconnected with social changes ?

#### SPECIAL PERIOD.

At least Three and not more than Four questions, including Question 1, to be answered.

1. Translate the following with brief historical notes :—

(a) καὶ Ἑλληνοταμίαι τότε πρῶτον Ἀθηναίους κατέστη ἀρχή, οἱ ἐδέχοντο τὸν φόρον. οὕτω γὰρ ὠνομάσθη τῶν χρημάτων ἡ φορά. ἦν δ' ὁ πρῶτος φόρος ταχθεὶς τετρακόσια τάλαντα καὶ ἐξήκοντα. ταμειῶν τε Δῆλος ἦν αὐτοῖς, καὶ αἱ ξύνοδοι ἐς τὸ ἱερὸν ἐγίνοντο. Thuc. i, 96.

(b) ἔπεισε δὲ καὶ τοῦ Πειραιῶς τὰ λοιπὰ ὁ Θεμιστοκλῆς οἰκοδομεῖν (ὑπῆρκετο δ' αὐτοῦ πρότερον ἐπὶ τῆς ἐκείνου ἀρχῆς ἥς κατ' ἐνιαυτὸν Ἀθηναίους ἤρξε) νομίζων τό τε χωρίον καλὸν εἶναι, λιμένας ἔχων τρεῖς αὐτοφνεῖς, καὶ αὐτοὺς ναυτικούς γεγενημένους μέγα προφέρειν εἰς τὸ κτήσασθαι δύναμιν. Thuc. i, 93.

(c) τοῦτο τὸ ἔργον (τὸ ἐπ' Ἐυρυμέδοντι ποταμῷ γενόμενον) οὕτως ἐταπείνωσε τὴν γνώμην τοῦ βασιλέως, ὥστε

συνθέσθαι τὴν περιβόητον εἰρήνην ἐκείνην, ἵππου μὲν δρόμον αἰεὶ τῆς Ἑλληνικῆς ἀπέχειν θαλάσσης, ἔνδον δὲ Κυανέων καὶ Χελιδονίων μακρᾶ νηὶ μὴ πλέειν. Plut. Cim. 13.

Ἄρταξέρξης δὲ ὁ βασιλεὺς πυθόμενος τὰ περὶ τὴν Κύπρον ἐλαττώματα, καὶ βουλευσάμενος μετὰ τῶν φίλων περὶ τοῦ πολέμου, ἔκρινε συμφέρειν εἰρήνην συνθέσθαι πρὸς τοὺς Ἕλληνας. καὶ τῶν Ἀθηναίων πεμφάντων πρέσβεις, ὧν ἡγείτο Καλλίας ὁ Ἰππονίκου ἐγένοντο συνθήκαι περὶ τῆς εἰρήνης . . . τοὺς δὲ τῶν Περσῶν σατράπας μὴ καταβαίνειν ἐπὶ θάλατταν κατωτέρω τριῶν ἡμερῶν ὁδόν, μηδὲ νῆδιν μακρὰν πλεῖν ἐντὸς Φασήλιδος καὶ Κυανέων. Diod. xii, 4.

(d) ΚΛΕΩΝ ὦ γέροντες ἡλιασταί, φράτερες τριωβόλου, οὗς ἐγὼ βόσκω κεκραγῶς καὶ δίκαια κᾶδικα. Ar. Eq. 255.

(e) τὰ τοιαῦτα δημοτικά, τὸ αἰρεῖσθαι τὰς ἀρχὰς πάντας ἐκ πάντων, τὸ ἄρχειν πάντας μὲν ἐκάστου ἕκαστον δ' ἐν μέρει πάντων, τὸ κληρωτὰς εἶναι τὰς ἀρχὰς ἢ πάσας ἢ ὅσαι μὴ ἐμπειρίας δέονται καὶ τέχνης. . . . Arist. Pol.

2. Give a critical account of the sources for the Pentekontaetia.

3. What can we gather as to parties and party policy at Athens between 479 and 462 ?

4. Build up a chronology of events from the Revolt of Naxos to the outbreak of war with Corinth. Indicate the evidence on which you rest your scheme.

5. Show clearly and fully the events immediately leading up to the Thirty Years' Peace with Sparta. How far did the Peace affect the position of Athens ?

6. Account for the spirit of disaffection within the Athenian Empire. How far was it justified ?

7. Show what was done during your period to restore and beautify Athens.

**10. ROMAN HISTORY.****GENERAL.**

**At least Three and not more than Four questions to be answered.**

1. Give an account of the climate, configuration, and geographical position of Italy. Indicate how these have influenced her history.

2. Show clearly the full constitutional significance of the change from monarchy to republic.

3. Outline the history of Rome's conquest of Italy, marking the various methods adopted by her for consolidating her power in the conquered territories.

4. Contrast the social and political condition of the Rome and Italy of the early third century B.C. with that of the Rome and Italy of the late second century B.C.

5. Give an account of the tribunate of Gaius Gracchus. Show the purpose of his various measures and the historical significance of his political activity as a whole.

6. "Julius Caesar was almost entirely an iconoclast."

Examine this judgment on his rule.

7. "The cause of imperial history shows an inevitable trend towards autocracy, which was completely established by Diocletian and Constantine."

Consider this statement for the period from Augustus to Diocletian and Constantine.

8. Give some account of the barbarian invasions up to the fall of the Western Empire. What steps did Rome take to meet them? How do you account for Rome's failure?

**SPECIAL PERIOD.**

**At least Three and not more than Four questions, including Question 1, to be answered.**

1. Translate, with short historical notes—

(a) *Tiberius mittit litteras ad senatum, quis potestatem tribuniciam Druso petebat. id summi fastigii vocabulum*

Augustus repperit, ne regis aut dictatoris nomen adsumeret ac tamen appellatione aliqua cetera imperia praemineret.

Tac. Ann. iii, 56.

(b) utique ei senatum habere, relationem facere, remittere. senatus consulta per relationem discessionemque facere liceat.

Lex de imp. Vesp. 73.

(c) Pontifex maximus ne fierem in vivi conlegae locum, populo id sacerdotium deferente mihi, quod pater meus habuit, recusavi. Cepi id sacerdotium aliquot post annos eo mortuo qui civilis motus occasione occupaverat.

Res Gestae Divi Aug.

(d) sibi que instituit consilia sortiri semenstria, cum quibus de negotiis ad frequentem senatum referendis ante tractaret.

Suet. Aug. 35.

(e) τοῖς δὲ δὴ ξένοις ("Ἕλληνας σφᾶς ἐπικαλέσας) ἑαυτῶ τινα, τοῖς μὲν Ἀσιανοῖς ἐν Περγᾶμῳ, τοῖς δὲ Βιθυνοῖς ἐν Νικομηδείᾳ τεμεῖναι ἐπέτρεψε.

Dio. Cass. 51, 20.

cum divus Augustus sibi atque urbi Romae templum apud Pergamum sisti non prohibuisset.

Tac. Ann. v, 37.

(f) tribuit quod Caesar uterque ius mihi natorum.

Martial ix, 97, 5.

2. Give a critical account of our sources for the rule of Augustus.

3. What was the constitutional position of Augustus prior to the settlement of 27 B.C.? Show the significance of the settlement then made.

4. Outline the military system established by Augustus. Indicate important changes made in the system during the first century A.D.

5. Trace the progress of Roman conquest in Britain up to the suppression of the Great Revolt by Suetonius.

6. Show the nature and the importance of the grading into ordines and plebs under the Empire.

7. Give an account of the administration of Rome and Italy under the early Principate.

## 11. GREEK PHILOSOPHY.

Candidates are recommended to answer Questions 1 and 2 and Four of the remaining Questions.

## 1. Translate—

"Όταν δέ γε οἶμαι ὑγιεινῶς τις ἔχη αὐτὸς αὐτοῦ καὶ σωφρόνως, καὶ εἰς τὸν ὕπνον ἴη τὸ λογιστικὸν μὲν ἐγείρας ἑαυτοῦ καὶ ἐστίασας λόγων καλῶν καὶ σκέψεων, εἰς σύννοιαν αὐτὸς αὐτῷ ἀφικόμενος, τὸ ἐπιθυμητικὸν δὲ μήτε ἐνδεῖα δούς μήτε πλησμονῇ, ὅπως ἂν κοιμηθῇ καὶ μὴ παρέχη θόρυβον τῷ βελτίστῳ χαίρον ἢ λυπούμενον, ἀλλ' ἔῃ αὐτὸ καθ' αὐτὸ μόνον καθαρὸν σκοπεῖν καὶ ὀρέγεσθαι τοῦ αἰσθάνεσθαι ὃ μὴ οἶδεν, ἢ τι τῶν γεγονότων ἢ ὄντων ἢ καὶ μελλόντων, ὡσαύτως δὲ καὶ τὸ θυμοειδὲς πραῦνας καὶ μὴ τισιν εἰς ὄργας ἔλθων κεκινημένῳ τῷ θυμῷ καθεύδη, ἀλλ' ἡσυχάσας μὲν τῷ δύο εἶδη, τὸ τρίτον δὲ κινήσας ἐν ᾧ τὸ φρονεῖν ἐγγίγνεται, οὕτως ἀναπαύηται, οἶσθ' ὅτι τῆς τ' ἀληθείας ἐν τῷ τοιούτῳ μάλιστα ἄπτεται καὶ ἥκιστα παράνομοι τότε αἱ ὄψεις φαντάζονται τῶν ἐνυπνίων.

Παντελῶς μὲν οὖν, ἔφη, οἶμαι οὕτως.

Ταῦτα μὲν τοίνυν ἐπὶ πλεόν ἐξήχθημεν εἰπεῖν· ὃ δὲ βουλόμεθα γινῶναι τόδ' ἐστίν, ὡς ἄρα δεινόν τι καὶ ἄγριον καὶ ἄνομον ἐπιθυμιῶν εἶδος ἐκάστῳ ἔνεστι, καὶ πάνυ δοκοῦσιν ἡμῶν ἐνίοις μετρίοις εἶναι· τοῦτο δὲ ἄρα ἐν τοῖς ὕπνοις γίγνεται εἰδηλον. εἰ οὖν τι δοκῶ λέγειν καὶ συγχωρεῖς, ἄθρει.

Ἄλλὰ συγχωρῶ.

Rep. 571d—

## 2. Translate and discuss the following:—

(a) "Ἔστιν ἄρα, ἦν δ' ἐγώ, δικαίου ἀνδρὸς βλάπτειν καὶ ὄντινόν ἀνθρώπων;

Rep. 335b.

(b) Δῆλον ὅτι ταῦτόν τάναντία ποιεῖν ἢ πάσχειν κατὰ ταῦτόν γε καὶ πρὸς ταῦτόν οὐκ ἐθελήσει ἅμα.

Rep. 436b.

What use does Plato make of this principle in the *Republic*?

(c) Οὕτω καὶ ὅταν τις τῷ διαλέγεσθαι ἐπιχειρῆ ἄνευ πασῶν τῶν αἰσθήσεων διὰ τοῦ λόγου ἐπ' αὐτὸ ὃ ἔστιν ἕκαστον ὀρμῶν, καὶ μὴ ἀποστῆ, πρὶν ἂν αὐτὸ ὃ ἔστιν ἀγαθὸν αὐτῇ νοήσῃ λάβῃ, ἐπ' αὐτῷ γίνεταί τῷ τοῦ νοητοῦ τέλει, ὡσπερ ἐκεῖνος τότε ἐπὶ τῷ τοῦ ὄρατοῦ.

Rep. 532a.

(d) Καὶ δὴ οὖν καὶ τότε ὃ ἐκεῖθεν ἄγγελος ἤγγελλε τὸν μὲν προφήτην οὕτως εἰπεῖν· καὶ τελευταίῳ ἐπιόντι, ξὺν νῷ ἐλομένῳ, συντόνωσ ζῶντι κείται βίος ἀγαπητός, οὐ κακός. μήτε ὃ ἄρχων αἰρέσεως ἀμελείτω, μήτε ὃ τελευτῶν ἀθυμείτω.

Rep. 619b.

(e) Φαίνεται δ' ὁμως [ἢ εὐδαιμονία] καὶ τῶν ἐκτὸς ἀγαθῶν προσδεομένη, καθάπερ εἴπομεν· ἀδύνατον γὰρ ἦ οὐ ῥᾶδιον τὰ καλὰ πράττειν ἀχωρήγητον ὄντα.

E.N. 1099a.

(f) Ἄγνοεῖ μὲν οὖν πᾶς ὃ μοχθηρὸς ἃ δεῖ πράττειν καὶ ὧν ἀφεκτέον, καὶ διὰ τὴν τοιαύτην ἀμαρτίαν ἄδικοι καὶ ὄλως κακοὶ γίνονται· τὸ δ' ἀκούσιον βούλεται λέγεσθαι οὐκ εἴ τις ἄγνοεῖ τὰ συμφέροντα· οὐ γὰρ ἦ ἐν τῇ προαιρέσει ἄγνοια αἰτία τοῦ ἀκουσίου ἀλλὰ τῆς μοχθηρίας, οὐδ' ἦ καθόλου (ψέγονται γὰρ διὰ γε ταύτην) ἀλλ' ἦ καθ' ἕκαστα, ἐν οἷς καὶ περὶ ἃ ἦ πρᾶξις· ἐν τούτοις γὰρ καὶ ἔλεος καὶ συγγνώμη· ὃ γὰρ τούτων τι ἄγνωῶν ἀκουσίως πράττει.

E.N. 1110b.

(g) Μάλιστα μὲν οὖν περὶ τιμᾶς καὶ ἀτιμίας ὃ μεγαλόψυχος ἔστι· καὶ ἐπὶ μὲν ταῖς μεγάλαις καὶ ὑπὸ τῶν σπουδαίων μετρίως ἡσθήσεται, ὡς τῶν οἰκείων τυγχάνων ἢ καὶ ἐλαττόνων· ἀρετῆς γὰρ παντελοῦς οὐκ ἂν γένοιτο ἀξία τιμῆ, οὐ μὴν ἀλλ' ἀποδέξεταί γε τῷ μὴ ἔχειν αὐτοὺς μείζω αὐτῷ ἀπονέμειν· τῆς δὲ παρὰ τῶν τυχόντων καὶ ἐπὶ μικροῖς πάμπαν ὀλιγωρήσει·

E.N. 1124a.

(h) Οὐδ' ἔστιν ἡ φρόνησις τῶν καθόλου μόνον, ἀλλὰ δεῖ καὶ τὰ καθ' ἕκαστα γνωρίζειν· πρακτικὴ γὰρ, ἢ δὲ πρᾶξις

περὶ τὰ καθ' ἕκαστα. διὸ καὶ ἔνιοι οὐκ εἰδότες ἐτέρων εἰδόντων  
πρακτικώτεροι, καὶ ἐν τοῖς ἄλλοις οἱ ἔμπειροι· εἰ γὰρ εἰδείη  
ὅτι τὰ κοῦφα εὐπεπτα κρέα καὶ ὑγιεινά, ποῖα δὲ κοῦφα  
ἀγνοοῖ, οὐ ποιήσει ὑγίειαν, ἀλλ' ὁ εἰδὼς ὅτι τὰ ὀρνίθεια [κοῦφα  
καὶ] ὑγιεινὰ ποιήσει μᾶλλον.

E.N. 1141b.

3. Discuss Plato's use of the analogy between Justice and the Arts in the *Republic*.

4. Explain clearly in modern terms the significance of Plato's statements that the Idea of Good is (a) the source of Knowledge and (b) the cause of Existence.

5. Suggest and discuss the criticisms which Plato would be likely to make upon the modern Picture Theatre.

6. \*Ἐτι δὲ καὶ τὴν εὐδαιμονίαν ἀφαιρούμενος τῶν φυλάκων, ὄλην φησὶ δεῖν εὐδαίμονα ποιεῖν τὴν πόλιν τὸν νομοθέτην.

Aristotle.

Examine the truth of the charge that Plato neglects the happiness of his Guardians.

7. Explain fully what Plato means by *εἰκασία* in the Simile of the Divided Line.

8. \*Ἔστιν ἄρα ἡ ἀρετὴ ἕξις προαιρετικὴ, ἐν μεσότητι οὐσα τῇ πρὸς ἡμᾶς, ὠρισμένη λόγῳ καὶ ᾧ ἂν ὁ φρόνιμος ὀρίσειεν.

Explain clearly the meaning of the terms in this definition of *ἡθικὴ ἀρετή*, so as to bring out the full significance of Aristotle's views.

9. State in modern terms the problem of *ἀκρασία*. What solution of the problem does Aristotle offer?

10. What view does Aristotle take of the nature of Pleasure? To what extent are the accounts of Pleasure in Books VII and X of the *Ethics* in harmony with one another?



12. LITERATURE—GREEK AND ROMAN EPIC.

SPECIAL SUBJECT (A).

Questions 1 and 2 and not more than Five others to be answered.

1. Translate and comment on the following:—

(a) ἡ μὲν οὖν ἐποποιία τῇ τραγωδίᾳ μέχρι μὲν τοῦ μετὰ μέτρον μίμησις εἶναι σπουδαίων ἠκολούθησεν. τῷ δὲ τὸ μέτρον ἀπλοῦν ἔχειν καὶ ἀπαγγελίαν εἶναι, ταύτη διαφέρουσιν. ἔτι δὲ τῷ μήκει. . . ἡ δὲ ἐποποιία ἀόριστος τῷ χρόνῳ.

Poetics v.

(b) δεῖ τοὺς μύθους καθάπερ ἐν ταῖς τραγωδίαις συνεστάναι δραματικούς καὶ περὶ μίαν πράξιν ὄλην καὶ τελείαν, ἔχουσιν ἀρχὴν καὶ μέσα καὶ τέλος, ἢ ὡς περ ζῶον ἐν ὄλον ποιῆ τὴν οἰκείαν ἡδονήν.

Poetics xxiii.

(c) νῦν δ' ἐν μέρος (τοῦ πολέμου) ἀπολαβῶν ("Ὀμηρος) ἐπεισοδίοις αὐτῶν κέχρηται πολλοῖς, οἷον νεῶν καταλόγῳ καὶ ἄλλοις ἐπεισοδίοις οἷς διαλαμβάνει τὴν ποιήσιν.

Poetics xxiii.

(d) τὸ δὲ μέτρον τὸ ἥρωικὸν ἀπὸ τῆς πείρας ἤρμοκεν. τὸ γὰρ ἥρωικὸν στασιώτατον καὶ ὀγκωδέστατον τῶν μέτρων ἐστίν.

Poetics xxiv.

2. What problems of criticism are raised by the following passages? Discuss them briefly.

(a) Ζεὺς δὲ πρὸς ὃν λέχος ἦι' Ὀλύμπιος ἀστεροπητής.  
ἐνθα καθεῦδ' ἀναβάς, παρὰ δὲ χρυσόθρονος Ἥρη.

Iliad i, 609-11.

ἄλλοι μὲν ῥα θεοὶ τε καὶ ἀνέρες ἵπποκορυσταὶ  
εὐδον παννύχιοι, Δία δ' οὐκ ἔχε νήδυμος ὕπνος.

Iliad ii, 1, 2.

(b) τὸν δ' ἀπαμειβόμενος προσέφη πόδας ὠκὺς Ἀχιλλεύς·  
"διε Μενoitιάδη, τῷ ἐμῷ κεχαρισμένε θυμῷ,  
νῦν ὄτω περὶ γούνατ' ἐμὰ στήσασθαι Ἀχαιοὺς  
λισσομένους· χρεῖώ γὰρ ἰκάνεται οὐκέτ' ἀνεκτός."

Iliad xi, 607-10.

(c) . . . . οἱ γὰρ ἄριστοι  
 κρινθέντες Τρῳάς τε καὶ Ἑκτορα δῖον ἔμιμνον,  
 φράξαντες δόρυ δουρί, σάκος σάκεϊ προθελύμνω.  
 ἄσπις ἄρ' ἄσπίδ' ἔρειδε, κόρυς κόρυιν, ἀνέρα δ' ἀνήρ.  
 Iliad xiii, 129-131.

τῷ δ' ἐπετοξάζοντο κάρη κομόωντες Ἀχαιοὶ  
 ἰοῖσιν τε τιτυσκόμενοι λάεσσι τ' ἔβαλλον.  
 αὐτὰρ ὁ μακρὸν αὔσεν ἀναξ ἀνδρῶν Ἀγαμέμνων·  
 “ἴσχεσθ', Ἀργεῖοι, μὴ βάλλετε, κοῦροι Ἀχαιῶν.”  
 Iliad iii, 79-81.

(d) εἰς ὃ κέ μοι μάλα πάντα πατὴρ ἀποδῶσιν ἔεδνα,  
 ὅσσα οἱ ἐγγυάλιξα κυνώπιδος εἴνεκα κούρης.  
 Odyssey viii, 318-319.

. . . . ἔεδνα  
 πολλὰ μάλ', ὅσσα ἔοικε φίλης ἐπὶ παιδὸς ἔπεσθαι.  
 Odyssey ii, 196-197.

3. State and criticise Sir Gilbert Murray's "Expurgation" theory of Homer. Discuss the evidence for the Homeridæ.

4. Give some account of Mycenaean civilization. What relation does it bear to the civilization depicted in Homer?

5. Discuss the Homeric use of simile.

6. Show clearly what is meant by the term "Epic Cycle." Discuss the relation of the poems of the Trojan Cycle to the Iliad and Odyssey.

7. Give some account of Apollonius Rhodius. Estimate Vergil's indebtedness to him.

8. "While the vagueness of the tradition (the legend of Aeneas) and the absence of definite incident and individual character associated with it were conditions unfavourable to novelty and vividness of representation, yet they allowed to Vergil great latitude in carrying out his purpose of giving body and substance to all that unknown and shadowy past. . . . It conduced to the poet's purpose of concentrating in one representation, of a Roman vastness of compass, whatever might enhance and illustrate the greatness of Rome and of its ruler." Expand the above statements.

9. "Ascræumque cano Romana per oppida carmen."  
What does Vergil owe to his predecessors in didactic verse?

10. Give some account of the Pharsalia. Show the importance of the poem for the student of literary history.

### 13. LITERATURE—GREEK DRAMA AND ARISTOTLE POETICS.

#### SPECIAL SUBJECT (B).

Questions 1 and 2 and not more than Four others to be answered.

1. "*μίμησις*, with its question-begging connotation, is in many ways an unfortunate word by which to describe the essence of Art, though in view of what Aristotle made of it I should not go so far as to say that 'Imitation is an unproductive principle, and dries up Aesthetic life.'"

Consider the above statement. In your answer take account of each of the following passages:—

(a) \**Ἄρ' οὖν οὐχὶ ἤτοι ἀπλῆ διηγήσει ἢ διὰ μιμήσεως γυγνομένη ἢ δι' ἀμφοτέρων περαίνουσιν;* Plato, Rep. 392D.

(b) *Πόρρω ἄρα που τοῦ ἀληθοῦς ἡ μιμητικὴ ἐστὶν καί, ὡς ἔοικεν, σμικρὸν τι ἐκάστου ἐφάπτεται καὶ τοῦτο εἶδωλον.*  
Plato, Rep. 598B.

(c) *καὶ (χρῆ) συγχωρεῖν Ὅμηρον ποιητικώτατον εἶναι καὶ πρῶτον τῶν τραγωδοποιῶν, εἰδέναι δὲ ὅτι ὅσον μόνον ὕμνους θεοῖς καὶ ἐγκώμια τοῖς ἀγαθοῖς ποιήσεως παραδεκτέον εἰς πόλιν.*  
Plato, Rep. 607A.

(d) *ἐν τῇ αὐτῇ δὲ διαφορᾷ καὶ ἡ τραγωδία πρὸς τὴν κωμωδίαν διέστηκεν, ἡ μὲν γὰρ χείρους ἢ δὲ βελτίους μιμείσθαι βούλεται τῶν νῦν.*  
Poetics ii.

(e) *διὰ γὰρ τοῦτο χαίρουσι τὰς εἰκόνας ὀρώντες, ὅτι συμβαίνει θεωροῦντας μανθάνειν καὶ συλλογίζεσθαι τί ἕκαστον, οἷον ὅτι οὗτος ἐκεῖνος.*  
Poetics iv.

(f) *ἔστιν οὖν τραγωδία μίμησις πράξεως.*  
Poetics vi.

(g) οὐ τὸ τὰ γενόμενα λέγειν, τοῦτο ποιητοῦ ἔργον ἔστιν, ἀλλ' οἷα ἂν γένοιτο καὶ τὰ δυνατὰ κατὰ τὸ εἶκος ἢ τὸ ἀναγκαῖον. Poetics ix.

(h) τῶν γὰρ γενομένων ἕνα οὐδὲν κωλύει τοιαῦτα εἶναι οἷα ἂν εἰκὸς γενέσθαι καὶ δυνατὰ γενέσθαι. Poetics ix.

(i) προαιρεῖσθαι τε δεῖ ἀδύνατα εἰκότα μᾶλλον ἢ δυνατὰ ἀπίθανα. Poetics xxiv.

2. Translate and comment on the following :—

(a) οὕτως ("Ομηρος) καὶ τὰ τῆς κωμωδίας σχήματα πρῶτος ὑπέδειξεν, οὐ ψόγον ἀλλὰ τὸ γελοῖον δραματοποιήσας.

(b) λέξεως δὲ γενομένης αὐτῇ ἢ φύσει τὸ οἰκεῖον μέτρον εὔρε, μάλιστα γὰρ λεκτικὸν τῶν μέτρων τὸ ἱαμβεῖόν ἐστιν.

(c) ὥστε δεῖ καθάπερ ἐπὶ τῶν σωμάτων καὶ ἐπὶ τῶν ζώων ἔχειν μὲν μέγεθος, τοῦτο δὲ εὐσύνοπτον εἶναι.

(d) καὶ ὁ Εὐριπίδης εἰ καὶ τὰ ἄλλα μὴ εὖ οἰκονομεῖ ἀλλὰ τραγικώτατός γε τῶν ποιητῶν φαίνεται.

(e) καὶ τὸν χόρον δὲ ἕνα δεῖ ὑπολαβεῖν τῶν ὑποκριτῶν, καὶ μόριον εἶναι τοῦ ὄλου καὶ συναγωνίζεσθαι μὴ ὥσπερ Εὐριπίδῃ ἀλλ' ὥσπερ Σοφοκλεῖ.

(f) οἶον καὶ Σοφοκλῆς ἔφη αὐτὸς μὲν οἴους δεῖ ποιεῖν Εὐριπίδην δὲ οἰοεῖσιν.

3. What is Aeschylus' teaching on sin and suffering ? How does Sophocles differ from him in this ?

4. What position does Euripides take up to the recognized gods of Greece ?

5. οἰκεία πράγματ' εἰσάγων, οἷς χρώμεθ', οἷς ξύνεσμεν.

Illustrate this from Euripides' plays.

6. ἔστι δὲ τοιοῦτος ὁ μῆτε ἀρετῇ διαφέρων καὶ δικαιοσύνη, μῆτε διὰ κακίαν καὶ μοχθηρίαν μεταβάλλων εἰς τὴν δυστυχίαν ἀλλὰ δι' ἁμαρτίαν τινά, τῶν ἐν μεγάλῃ δόξῃ ὄντων καὶ εὐτυχία.

Poetics xiii.

Consider the value of this definition of the ideal tragic hero. Illustrate by examples drawn from tragedies, Greek or otherwise.

7. State clearly the problem of the *Bacchae*, showing how the *Bacchae* differs from, say, the *Hippolytus*.

8. Aristotle would seem to have considered Aristophanes as representing the *ιαμβικὴ ἰδέα*. Is that view of Aristophanes justified ?

#### 14. GENERAL PAPER.

1. Translate the following extracts, with notes on the syntax :—

- (a) *Memoriam ipsam cum voce perdidissemus, si tam in nostra potestate esset oblivisci quam tacere.*  
Tacitus.
- (b) *Memoria minuitur nisi eam exerceas.* Cicero.
- (c) *Negant nec virtutes nec vitia crescere.* Cicero.
- (d) *Non omnis aetas, Lyde, ludo convenit.* Plautus.
- (e) *Quaero a te cur Gaium Cornelium non defenderem.*  
Cicero.
- (f) *Pompeium plerique existimant si acrius insequi voluisset bellum eo die potuisse finire.*  
Caesar.
- (g) *ῥεῖα θεός γ' ἐθέλων καὶ τηλόθεν ἄνδρα σαώσαι.*  
Homer.
- (h) *Οὔτοι παντελῶς, οὐδ' εἰ μὴ ποιήσαιτ' ἂν τοῦτο, ὡς ἔγωγέ φημι δεῖν, εὐκαταφρόνητόν ἐστιν.*  
Demosthenes.
- (i) *οὐ μὴ ταῦτα γένηται. οὐ μὴ φλυαρήσεις ;*
- (j) *οἶσθ', ὦ ξέν', ὡς νῦν μὴ σφαλῆς ;* Sophocles.
- (k) *τῶν ἀδελφῶν ἀμελοῦσιν, ὥσπερ ἐκ πολιτῶν μὲν γιγνομένους φίλους, ἐξ ἀδελφῶν δὲ οὐ γιγνομένους.*  
Xenophon.
- (l) *τὰ μετέωρα φροντιστής.* Plato.

2. Comment on the rhythm of the following lines :—

- (a) *unus qui nobis cunctando restituis rem.*
- (b) *parturient montes, nascetur ridiculus mus.*

- (c) ducite ab urbe domum, mea carmina, ducite  
Daphnim.
- (d) discissos nudis laniabant dentibus artus.
- (e) fataque fortunasque virum moresque manusque.
- (f) tristia sanguinea lambentem vulnera lingua.
- (g) despiciens mare velivolum terrasque iacentes.
- (h) dignum mente domoque legentis honesta Neronis.
- (i) πᾶ ποκ' ἄρ' ἦσθ' ὄκα Δάφνης ἐτάκετο, πᾶ πόκα  
Νύμφαι;
- (j) τριχθά τε καὶ τετραχθά διέσχισεν ἴς ἀνέμοιο.
- (k) αὐταρ ἔπειτα πέδονδε κυλίνδετο λᾶας ἀναιδῆς.
- (l) αὐταρ ἔπειτ' αὐτοῖσι βέλος ἔχεπευκὲς ἐφίεις  
βάλλ'. αἰεὶ δὲ πυραὶ νεκύων καίοντο θαμειαί.
- (m) ἤνιδε σιγῇ μὲν πόντος, σιγῶντι δ' ἀῆται·  
ἀ δ' ἐμὰ οὐ σιγῇ στέρνων ἔντοσθεν ἀνία.

3. Find English equivalents for the following proverbs :—

- (a) expertus metuit.
- (b) cum insanientibus furere.
- (c) onus est honos.
- (d) lupus in fabula.
- (e) inter vepres nascuntur rosae.
- (f) premor arte mea.
- (g) ab ovo usque ad mala.
- (h) ne sutor supra crepidam.
- (i) remis velisque.
- (j) κεραμεὺς κεραμεῖ.
- (k) ἐπὶ δυοῖν ἀγκυραῖν ὀρμεῖν.
- (l) κατόπιν ἐορτῆς.
- (m) ὄρνιθος γάλα.
- (n) παθήματα μαθήματα.
- (o) κολοῖός ποτι κολοῖόν.
- (p) περὶ ὄνου σκιᾶς.

And Latin equivalents for the following :—

- (a) *οἶνος καὶ ἀλήθεια.*
- (b) *ἐν Καρὶ κινδυνεύειν.*
- (c) *ὄς τῆν Ἀθηνᾶν.*
- (d) *γλαῦκ' ἐς Ἀθηνάς.*
- (e) *μηδὲν ἄγαν.*

4. Explain the following, and note any point of interest such as source, circumstances under which written, etc.:—

- (a) “ Fill high the bowl with Samian wine !  
We will not think of themes like these !  
It made Anacreon's song divine :  
He served—but served Polycrates.”
- (b) “ A brighter Hellas rears its mountains  
From waves serener far ;  
A new Peneus rolls his fountains  
Against the morning-star ;  
Where fairer Tempes bloom, there sleep  
Young Cyclads on a sunnier deep.”
- (c) “ Within the walls then view  
The schools of ancient sages—his who bred  
Great Alexander to subdue the world,—  
Lyceum there.”
- (d) “ Tho' he inherit  
Nor the pride, nor ample pinion  
That the Theban eagle bear,  
Sailing with supreme dominion  
Thro' the azure deep of air.”
- (e) “ Who saw life steadily, and saw it whole ;  
The mellow glory of the Attic stage,  
Singer of sweet Colonus, and its child.”
- (f) “ Thy mighty scholiast whose unwearied pains  
Made Horace dull and humbled Milton's strains.  
Roman and Greek grammarians ! know your  
better,  
Author of something yet more great than letter ;  
While tow'ring o'er your alphabet, like Saul,  
Stands our digamma, and o'ertops them all.”

5. Give an account of the Eleusinian Festival, and estimate the importance of the mysteries in the religious life of Athens.

6. Compare the position of women at Athens in the Periclean Age, and at Rome in the time of Augustus.

7. To what extent were the citizens of Rome in the first century A.D. provided with the following institutions?—

- (a) Post Office ;
- (b) Fire Brigade ;
- (c) Police Force ;
- (d) Public Water Supply.

8. Draw a sketch-map of Rome of the early first century A.D., showing the chief features.

9. Compare the treatment of slaves in Greece and Rome.

10. Correct the following sentences, giving reasons for any alteration you suggest :—

- (a) vocato ad se Eumene in hunc modum allocutus est.
- (b) Dic quidnam fecisses, si eo tempore censor fuisses ?
- (c) Hostibus fugatis, fugitivorum tria millia perduntur a Romanis.
- (d) uxores puerosque iam relinquit ; vestra patria vos vocat.
- (e) affirmavit centurio se deseruisse Neronem.
- (f) ἐνδεία πάντων ἤδη πιεζόμενοι οἱ πολῖται ἔφασαν ὅτι τούτου μόνον ἐπεθύμουν τὸ σίτον λαμβάνειν.
- (g) ἐρωτῶσιν ἐὰν λησταὶ ᾶσι.
- (h) οὐκ ἀποκρινοῦμαι πρότερον πρὶν πυνθάνομαι.
- (i) ὑπὸ τῆς ἐλευθεριότητος τοῦ ἠθους ἐκτήσατο τὴν φιλότητα αὐτῶν.
- (k) βλέπων τοὺς ἐχθροὺς νικᾶν, εὐθὺς ἠθυμῆι ὁ δημὸς.

11. "Most wars are trade wars." Does this statement hold good of wars in classical times ?



12. By what arguments would you defend the use of classical literature as an instrument of education in modern times ?

13. To what extent did Roman literature exercise an influence upon the common people ?

14. *Briefly* indicate the importance of the work of the following :—Praxiteles, Hippocrates, Pythagoras, Justinian, Epictetus, Vitruvius, Claudian, M. Terentius Varro, Apuleius, Erasmus.

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EXAMINATIONS FOR FINAL HONOURS, 1918.

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(B.) MODERN LANGUAGES AND LITERATURE.

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PAPERS.

	Page.
1. English—First Paper .. .. .	164
2. English—Second Paper .. .. .	164
3. English—Third Paper .. .. .	166
4. English—Fourth Paper .. .. .	167
5. English—Fifth Paper .. .. .	170
6. French—First Paper .. .. .	172
7. French—Second Paper .. .. .	172
8. French—Third Paper .. .. .	175
9. French—Fourth Paper .. .. .	177
10. French—Fifth Paper .. .. .	178

**(B.) MODERN LANGUAGES AND LITERATURE.**

**1. ENGLISH—First Paper.**

Write an Essay on one of the following subjects:—

- (a) The Comic Spirit in English Literature between 1740 and 1745 ;
- (b) “Romanticism was of no sudden growth ; there were signs of it in English Literature long before the appearance of Thomson, and indeed the work of Pope himself is not devoid of ‘romantic’ characteristics ;”
- (c) The “Familiar style” in English Literature ;
- (d) “Just as Swift recognised merely the grotesque side of things and strayed into almost incredible ferocity of satire, so Richardson had eyes only for the pathos of life, and erred in excess of sentiment. Fielding occupied the mean between the two, in him as in Shakespeare the sense of relative proportion governed.”

**2. ENGLISH—Second Paper.**

**I.**

Comment fully on the following passages :—

- (a) Thanne may men by this ordre wel discernen  
That thilké Moevere stable is and eterne.  
Wel may men knowe, but it be a fool,  
That every part dirryveth from his hool ;  
For nature hath nat taken his bigynnyng  
Of no partie ne cantel of a thyng,  
But of a thyng that parfit is and stable,  
Descendynge so, til it be corrumpable.  
And therefore of his wise purveiaunce  
He hath so wel biset his ordinaunce,  
That speses of thyngés and progressiouns  
Shullen enduren by successiouns,  
And nat eterne, withouten any lye ;  
This maystow understonde, and seen at eye.

(b) But beside these grosse absurdities, how all theyr Playes be neither right Tragedies, nor right Comedies : mingling Kings and Clownes, not because the matter so carrieth it : but thrust in Clownes by head and shoulders, to play a part in maiesticall matters, with neither decencie nor discretion. So as neither the admiration and commiseration, nor the right sportfulness, is by their mungrell Tragy-comedie obtained.

(c) *Ros.* Nay, their endeavour keeps in the wonted pace : but there is, sir, an aery of children, little eyases, that cry out on the top of question, and are most tyrannically clapped for't : these are now the fashion, and so berattle the common stages—so they call them—that many wearing rapiers are afraid of goose-quills and dare scarce come thither.

*Ham.* What, are they children ? who maintains 'em ? how are they escoted ? Will they pursue the quality no longer than they can sing ? will they not say afterwards, if they should grow themselves to common players—as it is most like, if their means are no better—their writers do them wrong, to make them exclaim against their own succession ?

## II.

Not more than Five of the following questions to be attempted.

1. "What he did was to present the current ideas and fancies of the Middle Ages in the best possible form before they were supplanted by other ideas."

Discuss this statement of Chaucer's literary achievement.

2. Discuss the value of the first quartos of Shakespeare's plays with especial reference to the play of "Hamlet," and state the generally accepted theory of the authorship of the "Ur-Hamlet."

3. "Follow Sidney, and good-bye to Faustus, to Hamlet . . . to The Broken Heart. We must content ourselves with Gorboduc and Cornelia and Cleopatra."

Explain and discuss this statement.

4. Compare and contrast the characterisation in "Love's Labour's Lost," "Every Man in his Humour," and "Micro-cosmography."

5. "The utter disregard of decency in Restoration Comedy is an entirely different thing from the Rabelaisian coarseness of thought and speech which we find in Ben Jonson."

Discuss this statement.

6. "The Renaissance joy in loveliness, the romantic youthfulness of the age, the wave of cheerful patriotism all passed at the same time. Boyhood passed. Imagination at this time woke to life. Its flights were to the strangest corners and pitchiest barathrum of the deep."

Discuss this statement in reference to "The Broken Heart."

7. Briefly trace the development of English prose from Milton to Dr. Johnson.

8. "They founded the new school on a principle of sheer humanity, on pure nature devoid of art."

Analyse and justify this criticism of the authors of the Lyrical Ballads.

9. "There is no 'poisonous honey' stolen from anywhere or extracted by himself from anything in Keats; his sensuousness is nothing more than is, in the circumstances, 'necessary and voluptuous and right.'"

Criticise this statement.

### 3. ENGLISH—Third Paper.

Not more than Six of the following questions to be attempted.

1. Account for the contrast between the drama of the Elizabethan era and the Restoration.

2. Describe and discuss the relationship of Literature to society as evidenced in the works of Addison, Steele, Pope, Swift, and Richardson.

4. Comment on the following statement regarding Prior, Gay, and Parnell:—

"Each of these men had a touch of genius in his composition, and each still holds a certain independence in the world of poetry."

5. (a) Trace the development of English prose from the days of "The Spectator" to the appearance of "Tom Jones."

(b) Estimate the influence of Pope, Swift, Defoe, and Smollett in the production of the "new" prose style.

(c) Describe and discuss the advantages accruing to the development of the technique of English Prose from the production of (a) Restoration comedy, (b) mock heroic verse.

6. Discuss the term "artificial-natural" as applied to the style of poetry produced by Shenstone, Thomson, and Gray, and indicate the degree to which this poetry was representative of the emotional demands of the period.

7. "The Renaissance conquered in England, not by the adoption of formal rules of imitation, but by allying itself with dominant tendencies in the national life, and by developing an instrument of metrical expression which had been naturalised in the language since the time of Chaucer."

Discuss with special reference to Pope and Young.

8. Account for the appearance of the English novel of the 18th century, and discuss the following statement:—"All the novels of the period had this in common, that they dealt with mental and moral phenomena."

9. Contrast the methods of characterisation in the novels of Richardson, Fielding, Smollett, and Defoe.

#### 4. ENGLISH—Fourth Paper.

##### MIDDLE ENGLISH.

1. Translate into Modern English, locate, and annotate the words in italics:—

- (a) "Heo bar an hire honde  
ane guldene bolle  
i-uulled mid wine  
þe wes wunder ane god.  
HæƷe iborenne men  
heo laedden to hallen  
biuoren þan kinge.

fairest alre þinge.  
 Reowen sæt a cneowe  
 & cleopede to þan kinge  
 & þus aereſt sæide  
 in Aenglene londe  
 Lauerd king *waes hæil*  
 for þine kime ich æm uaein."

- (b) " Ich was in one sumere dale,  
 In one swiþe diþele hale,  
 I-herde ich holde grete tale  
 An ule and one *niþtingale*.  
 Þat plait was ſtif and ſtare and ſtrong,  
 Sum wile ſofte, and lud among ;  
 And aþer aþen oþer ſwal,  
 And let þat ule mod ut al.  
 And eþer ſeide of oþeres cuſte  
 Þat alre-worſte þat hi wuſte ;  
 And hure and hure of oþeres ſonge  
 Hi heolde plaiding ſwiþe ſtronge."
- (c) " Horn let ſone wurche  
 Chapeles and *chirche*.  
 He com to his moder halle  
 In a roche walle."
- (d) " To-day I wile fro Denemark fle,  
 Ne nevere more comen ageyn ;  
 Sweren Y wole that Bircabein  
 Neuere yete me ne gat :—  
*Hwan* the devel herde that  
 Sumdæl bigan him for to rewe ;  
 Withdrow the knif, that was ful lewe  
 Of the *ſeli* children blod ;  
 Ther was miracle fair and god ! "
- (e) " Ermytes on an hep. wid hokide ſtaues,  
 Wenten to Walsyngham : & here wenchis aftir ;  
 Grete lobres & longe. þat loþ weore to *ſwynke*.

Cloþeden hem in Copes. to beo knowen for  
 breþeren ;  
 And summe schopen hem to hermytes. heore ese  
 to haue."

- (f) " A not-heed hadde he, with a broun *visage*.  
 Of wode-craft wel coude he al the usage.  
 Upon his arm he bar a gay bracer,  
 And by his syde a swerd and a bokeler,  
 And on that *other* syde a gay daggere,  
 Harneised wel, and sharp as point of spere."
- (g) " What sholde he studie, and make him-selven *wood*.  
 Upon a book in cloistre alwey to poure,  
 Or swinken with his handes, and laboure,  
 As Austin bit ? How shal the world be served ?  
 Lat Austin have his swink to him reserved."

2. Name the chief dialects in Middle English, point out their distinguishing characteristics, and assign each of the passages in Question 1 to its respective dialect.

3. Compare and contrast " Piers the Plowman" with the " Prologue" to the Canterbury Tales, as providing a picture of life in England during the 14th century.

4. Write a short essay upon " English Epic and Romance," dwelling chiefly upon the epic hero Beowulf and the principal figure of Arthurian Romance.

5. Briefly discuss Chaucer's debt to foreign literature.

6. Contrast the metres of " Piers the Plowman" and the " Prologue to the Canterbury Tales," briefly stating the principles of each.

7. Write a short critical account of " The Story of Havelock the Dane," considering it from the point of view of legend.

8. Write short notes upon—

- (a) A Bestiary ;  
 (b) Nicholas de Guildford ;  
 (c) Ormulum.



## 5. ENGLISH—Fifth Paper.

## OLD ENGLISH AND HISTORICAL GRAMMAR.

## 1. Translate into Modern English—

“Widsið maðolade, wordhord onleac,  
se þe monna maest maegþa ofer eorþan,  
folca geondferde :

“Swa ic geondferde fela fremdra londa.  
geond ginne grund : godes and yfles  
þær ic cunnade enosle bidæled ;  
freomaegum feor folgade wide.  
Forþon ic maeg singan and seegan spell,  
maenan fore mengo in meoduhealle,  
hu me cynegode cystum dohten.

þonne wit Scilling sciran reorde  
for uncrum sigedryhtne song ahofan,  
hlude bi hearpan hleoþor swinsade :  
þonne monige men modum wlonce  
wordum sprecaþ, þe þe wel cuþan  
þæt hi næfre song sellan ne hyrdon.”

## 2. Translate into Modern English, with etymological notes on the words in italics :—

(a) “þa ic ða ðis eall gemunde, ða wundrade ic swiðe swiðe ðara godena wiotona ðe giu waeron giond Angelcynn, ond ða bec ealla be fullan geliornod hæfdon, ðæt hie hiora ða naenne dæl noldon on hiora *agen* geðiode wendan. Ac ic ða sona eft me selfum andwyrde, ond cwaeð : ‘Hie ne wendon ðaette æfre menn sceolden swa reccelease weorðan, ond sio lar swa oðfeallan ; for ðære wilnunga hie hit forleton, ond woldon ðæt her ðy mara wisdom on londe wære ðy we ma geðeoda cuðon.”

(b) “Com þa to Heorote, ðær Hringdene geond þæt sæld swæfun. Þa ðær sona wearð edhwyrft eorlum, siþþan inne fealh Grendles modor ; waes se gryre laessa efne swa micle swa bið maegþa craeft, wiggryre wifes be waepnedmenn,

þonne heoru bunden, hamere geþuren,  
sweord swate fah swin ofer helme  
ecgum *dyhtig* andweard scireð.”

- (c) “ Þeos lyft byreð lytle wihte  
ofer beorghleoþa, þa sind blace swiþe,  
*swearte*, salopade. Sanges rowe,  
heapum ferað, hlude cirnað,  
tredað bearnaæssas, hwilum burgsalo  
niþþa bearna : nemnað hy sylfe.”
- (d) “ Eall is earfoðlic eorþan rice,  
onwendeð wyrdra gesceaft weoruld under heo-  
fonum.  
Her bið feoh laene, her bið freond laene,  
her bið monn laene, her bið maeg laene :  
eall þis eorþan gesteall idel weorþeð.”  
Swa cwæð snottor on mode, gesaet him sundor  
aet *rune*.”
- (e) “ Ic ðe ðancige ðeoda Waldend,  
ealra þæra wynta þe ic on worulde gebad :  
nu ic ah, milde Metod, maeste þearfe,  
þæt þu minum gaste godes geunne,  
þæt min sawul to þe siððian mote,  
on þin geweald, þeoden engla,  
mid friðe ferian : ic eom frymði to þe,  
þæt hi hellsceaðan hynan ne moton.”

Not more than Five of the following questions should be attempted.

3. Write a short essay on the Anglo-Saxon metre, illustrating your answer from the poems you have studied.

4. Compare and contrast “Beowulf” and “The Battle of Maldon” as epic poems.

5. Write a short essay upon heathen belief as found in Anglo-Saxon literature.

6. Briefly indicate the importance of King Alfred to Anglo-Saxon literature.

7. Briefly discuss the merits of Alfred and Aelfric as prose-writers.

8. Write short historical notes upon the following words :— Neighbour, nostril, be, nice, nick-name, lord.

6. FRENCH—First Paper.

Write an Essay, in French, on one of the following subjects :—

- (a) The influence of the Salon on literature in France during the first half of the 18th century ;
- (b) The dramatic art of Beaumarchais ;
- (c) Bernardin de Saint-Pierre.

7. FRENCH—Second Paper.

Translate—

1. Je *sçay* qu'il n'y a icy que de nos amis, non plus qu'aux *Estats* de Blois ; et, par *consequent*, je m'*asseure* que voudriez tous, autant pour moy que pour chacun de vous, que *moy* ou un Prince de nostre maison fust Roy, et vous vous en trouveriez bien. Si est-ce que cela ne peut se faire si *tost*, et y a encore une messe à dire, et *faudroit* faire une grande breche ou Royaume parce qu'il en conviendrait donner une bonne partie à ceux qui nous y auroient *aydé*. D'autre part, vous prevoyez bien les dangers et inconveniens de la paix, qui met ordre à tout et rend le *droict* à qui il appartient. C'est pourquoy il vaut encore mieux l'*empescher* que d'y penser, et, quant à moy, je vous jure par la chere teste de mon fils aîné que je n'ay veine qui y tende, et en suis aussi *eslongné* que la terre est du ciel. Car, encore que j'aye *faict* semblant, par ma dernière Declaration et par ma response subsequente, de desirer la conversion du Roy de Navarre, je vous prie croire que je ne desire rien moins ; et *aimeroy* mieux *veoir* ma femme, mon *nepveu* et tous mes cousins et parents morts que *veoir* ce Biarnois à la messe Ce n'est pas là ou il me desange. Je ne l'ay escrit et publié qu'à dessein, non plus que Monsieur le Legat son Exhortation au Peuple François. La Satyre Ménippée.

Account for the spelling of the words italicised in the above passage.

- 2. Lors que Maillart, juge d'Enfer, menoit  
A Monfaulcon Samblançay l'ame rendre,  
A vostre advis, lequel des deux tenoit  
Meilleur maintien ? Pour le vous faire entendre,

Maillart sembloit homme qui mort va prendre,  
 Et Samblançay fut si ferme vieillart,  
 Que l'on cuydoit, pour vray, qu'il menast pendre  
 A Monfaulcon le lieutenant Maillart.

Clement Marot.

3. En quelque endroit que j'aïlle il faut fendre la presse  
 D'un peuple d'importuns qui fourmillent sans cesse.  
 L'un me heurte d'un ais dont je suis tout froissé ;  
 Je vois d'un autre coup mon chapeau renversé.  
 Là, d'un enterrement la funèbre ordonnance  
 D'un pas lugubre et lent vers l'église s'avance ;  
 Et plus loin, des laquais l'un l'autre s'agaçants,  
 Font aboyer les chiens et jurer les passants.  
 Des paveurs en ce lieu me bouchent le passage,  
 Là je trouve une croix de funeste présage ;  
 Et des couvreurs grimpés au toit d'une maison  
 En font pleuvoir l'ardoise et la tuile à foison.  
 Là sur une charrette une poutre branlante  
 Vient, menaçant de loin la foule qu'elle augmente ;  
 Six chevaux attelés à ce fardeau pesant  
 Ont peine à l'émouvoir sur le pavé glissant.  
 D'un carrosse en tournant il accroche une roue,  
 Et du choc le renverse en un grand tas de boue :  
 Quand un autre à l'instant s'efforçant de passer  
 Dans le même embarras se vient embarrasser.

Boileau.

4. Quelle influence ! . . . candeur ! candeur ! quelle influence, l'ennui, chez nous ? mais énorme ! . . . mais considérable ! Le Français vois-tu, a pour l'ennui une horreur poussée jusqu'à la vénération. Pour lui, l'ennui est un dieu terrible qui a pour culte la tenue. Il ne comprend le sérieux que sous cette forme. Je ne dis pas qu'il pratique, par exemple, mais il n'en croit que plus fermement, aimant mieux croire . . . que d'y aller voir. Oui, ce peuple gay, au fond, se méprise de l'être ; il a perdu sa foi dans le bon sens de son vieux rire ; ce peuple sceptique et bavard croit aux silencieux, ce peuple expansif et aimable s'en laisse imposer par la morgue pédante et la nullité prétentieuse des pontifes de la cravache blanche : en politique, comme en science, comme en art, comme en littérature, comme en tout. Il les raille, il les hait, il les fuit comme peste, mais ils ont seuls son admiration secrète et sa

confiance absolue! Quelle influence, l'ennui? Ah! ma chère enfant! mais c'est-à-dire qu'il n'y a que deux sortes de gens au monde: ceux qui ne savent pas s'ennuyer et qui ne sont rien, et ceux qui savent s'ennuyer et qui sont tout . . . après ceux qui savent ennuyer les autres. Pailleron.

5. La Déesse est vêtue d'une longue robe rayée de cannelures symétriques, comme celles des colonnes du Parthénon: vêtement pesant qui enracine à la terre la Mère universelle, et dont les plis rappellent les sillons qui tendent le champ cultivé. Un péplos aux plis nombreux couvre sa poitrine; ses cheveux courts et calamistrés ont la rudesse virile que l'art antique prêtait aux coiffures des divinités androgynes. Le profil est d'une rectitude étonnante; c'est le type grec à sa plus haute expression. Le nez prolonge le front, sans inflexion apparente; les lèvres offrent ces contours épais qui donnent aux bouches divines tant de gravité. L'attitude de Cérès est pontificale; le mouvement du bras qui s'appuie au sceptre, le geste de la main qui confère à Triptolème la graine mystérieuse, tout en elle indique l'exercice d'une fonction sacrée. Son visage est empreint d'une bonté austère: elle enseigne et elle exhorte son jeune néophyte; elle lui révèle l'excellence du grain nourricier; elle l'encourage aux mâles travaux qui en tireront d'éternelles moissons. On croit entendre le discours qui coule de ses nobles lèvres, avec une gravité didactique.

6. Ainsi, quand désertant sa bauge solitaire,  
 Le sanglier, frappé de mort,  
 Est là, tout palpitant, étendu sur la terre  
 Et sous le soleil qui le mort;  
 Lorsque, blanchi de bave et la langue tirée,  
 Ne bougeant plus de ses liens,  
 Il meurt, et que la trompe a sonné la curée  
 A toute la meute des chiens,  
 Toute la meute, alors, comme une vague immense,  
 Bondit; alors chaque matin  
 Hurlé en signe de joie, et prépare d'avance  
 Ses larges crocs pour le festin;  
 Et puis vient la cohue, et les abois féroces  
 Roulent de vallons en vallons;  
 Chiens courants et limiers, et dogues, et molosses,  
 Tout s'élançe, et tout crie: Allons!

Quand le sanglier tombe et roule sur l'arène,  
 Allons, allons ! les chiens sont rois !  
 Le cadavre est à nous, payons notre peine,  
 Nos coups de dents et nos abois.

Auguste Barbier.

8. FRENCH—Third Paper.

I. Translate into French—

At the word "artist" the Commissary had replaced his hat with the air of a person who, having condescended too far, should suddenly remember the duties of his rank.

"Go, go," said he, "I am busy—I am measuring butter."

"Heathen Jew!" thought Léon. "Permit me, sir," he resumed aloud. "I have gone six times already——"

"Put up your bills if you choose," interrupted the Commissary. "In an hour or so I will examine your papers at the office. But now go; I am busy."

"Measuring butter!" thought Berthelini. "Oh, France, and it is for this that we made '93!"

The preparations were soon made; the bills posted, programmes laid on the dinner-table of every hotel in the town, and a stage erected at one end of the Café of the Triumphs of the Plough; but when Léon returned to the office the Commissary was once more abroad.

"He is like Madame Benoîton," thought Léon, "Fichu Commissaire!"

And just then he met the man face to face.

"Here, sir," said he, "are my papers. Will you be pleased to verify?"

But the Commissary was now intent upon dinner.

"No use," he replied, "no use; I am busy; I am quite satisfied. Give your entertainment."

And he hurried on.

"Fichu Commissaire!" thought Léon.

R. L. Stevenson.

2. Sometimes this curiosity came in conflict with the desire of beauty; it tended to make him go too far below that outside of things in which art begins and ends. This struggle between the reason and its ideas and the senses, the desire of beauty, is the key to Leonardo's life at Milan—his restlessness, his endless retouchings, his odd experiments with colour. How much must he leave unfinished, how much recommence! His problem was the transmutation of ideas into images. What he had attained so far had been the mastery of that earlier Florentine style, with its naïve and limited sensuousness. Now he was to entertain in this narrow medium those divinations of a humanity too wide for it—that larger vision of the opening world which is only not too much for the great irregular art of Shakespeare; and everywhere the effort is visible in the work of his hands. This agitation, this perpetual delay, give him an air of weariness and ennui. To others he seems to be aiming at an impossible effect, to do something that art, that painting, can never do. Often the expression of physical beauty at this or that point seems strained and marred in the effort, as in those heavy German foreheads—too heavy and German for perfect beauty.

There was a touch of Germany in that genius which, as Goethe said, had "müde sich gedacht," *thought itself weary*. What an anticipation of modern Germany, for instance, in that debate on the question whether sculpture or painting is the nobler art! But there is this difference between him and the German, that, with all that curious science, the German would have thought nothing more was needed; and the name of Goethe himself reminds one how great for the artist may be the danger of overmuch science.

Walter Pater.

3. BEN. He ran this way, and leap'd this orchard wall :  
Call, good Meroutio.

MER. Nay, I'll conjure too.  
Romeo! humours! madman! passion! lover!  
Appear thou in the likeness of a sigh :  
Speak but one rhyme, and I am satisfied ;  
Cry but "Ay me!" pronounce but "love" and  
"dove";

Speak to my gossip Venus one fair word,  
One nick-name for her purblind son and heir,  
Young Adam Cupid, he that shot so trim,

When King Cophetua loved the beggar maid  
 He heareth not, he stirreth not, he moveth not ;  
 The ape is dead, and I must conjure him.  
 I conjure thee by Rosaline's bright eyes,  
 By her high forehead and her scarlet lip,  
 That in thy likeness thou appear to us !

BEN. An if he hear thee, thou wilt anger him.

MER. This cannot anger him : my invocation  
 Is fair and honest, and in his mistress' name  
 I conjure only but to raise up him.

BEN. Come, he hath hid himself among these  
 trees,  
 To be consorted with the humorous night :  
 Blind is his love and best befits the dark.

Shakespeare.

9. FRENCH—Fourth Paper.

I.

Translate and discuss the following passages :—

(a) J'aime un écrivain qui embrasse tous les temps et tous les pays, et rapporte beaucoup d'effets à peu de causes, qui compare les préjugés et les mœurs des différents siècles ; qui, par des exemples tirés de la peinture ou de la musique me fait connaître les beautés de l'éloquence et l'étroite liaison des arts.

(b) La muse de Sophocle, en robe doctorale,  
 Sur des tréteaux sanglants professe la morale.  
 Là, souvent un sauvage, orateur apprêté,  
 Aussi bien qu'Arouet, parle d'humanité,  
 Là, des Turcs amoureux, soupirant des maximes,  
 Débitent galamment Sénèque mis en rimes ;  
 Alzire au désespoir, mais pleine de raison,  
 En invoquant la mort, commente le Phédon ;  
 Pour expirer en forme, un roi, par bienséance,  
 Doit exhaler son âme avec une sentence ;  
 Et chaque personnage au théâtre produit,  
 Héros toujours soufflé par l'auteur qui le suit.

(c) La tragi-comédie ne peut être qu'un mauvais genre, parce qu'on y confond deux genres éloignés et séparés par une



barrière naturelle. On n'y passe point par des nuances imperceptibles ; on tombe à chaque pas dans les contrastes, et l'unité disparaît.

II.

At least Four and not more than Five of the following questions are to be answered.

1. Trace the development of "Le style coupé" and of "Le style créé" during the 18th century.

2. Contrast the poetic art of Delille with that of Chénier.

3. "Le dix-septième siècle voyait Versailles, le dix-huitième voit la terre."

Criticise this statement.

4. Trace the development of "La Comédie larmoyante."

5. Contrast the form of Voltaire's "La mort de César" with that of Racine's tragedies. Account for the changes noted.

6. "Beaumarchais, in his life and writings, is the epitome of his time."

Discuss this statement.

7. Define the following schools and point out their influence on the literary development in France :—

(a) Les Philosophes,

(b) Les Dévots,

(c) Les Encyclopédistes.

8. Point out and discuss the essential differences between the literary art of Voltaire and that of Jean Jacques Rousseau.

10. FRENCH—Fifth Paper.

I.

1. Translate into English, with etymological notes on the words in italics :—

(a) Hore en odreiz les peines granz

Que il ent firet, li tiranz.

Li perfides tant fut crudels,

Les uoils del *quiev* li fait crever,

Com si l'aut fait, mist l'en reclus :  
 Ne sout nuls huom qu'est devenuz.  
 Ambes levres li fait talier,  
 Anc la langue que aut en quiev.  
 Com si l'aut tot *vituperét*,  
 Dist Evruïns, qui tant fut mels :  
 " Hore at perdu dont Dieu parler ;  
 Ja nen podrat mais Dieu loder."

- (b) Ço sent Rodlanz de son tems n'i at plus ;  
 Devers Espagne *gist* en un pui gut.  
 A l'une main si at son piz batut :  
 " Dieus, meie colpe, par la toë vertut,  
 De mes pechiez, des granz e des menuz,  
 Que jo ai faiz des l'ore que nez fui  
 Tresque a cest *jorn* que ci sui conseüz."  
 Son destre guant en at vers Dieu tendut :  
 Angele del ciel en descendent a lui.
- (c) Delés ses. .iiij. fuis les asiet en plorant.  
 Li mengiers fu tos pres : mout les va somonant.  
 Char ont de venoison et d'oiselin volant,  
 Burent vin et *claré* a une coupé grant.  
 Es Aime de Dotdon parmi la porte entrant :  
 Repairoit de *chacier* parmi la vile errant,  
 .iiij. cers orent pris a la muete corant.  
 Il descent au perron, sos le pin verdoiant,  
 Et monta el palais .j. baston paumoiant,  
 Et a trové ses fils a sa table seant,  
 Qui furent nu et povre : nes va reconoisant.
- (d) Quant que ele a set anz amé  
 A ele en un jor oblié :  
 Onc nule ne sot duel aveir.  
 Mout lor pert bien de lor saveir :  
 Ja n'*avra* tant nul jor mesfait  
 Chose ne rien que tant seit lait,  
 Ço li est vis, qui que les veie,  
 Que l'*om* ja blasmer les en doie.  
 Ja jor ne cuideront mesfaire :  
 Des folies est ço la maire.  
 Qui s'i atent ne qui s'i creit  
 Sei meisme vent et deceit.

(e) Si le me fait chier comparer  
 Qu'or au sai plus que bues d'arer.  
 Mès d'une chose me despoir  
 Que cil n'ama onques, espoir ;  
 Et s'il n'aimme ne n'a amé,  
 Donc ai je en la mer semé,  
 Ou semance ne se puet reprendre,  
 Si n'i a plus que de l'*atandre*  
 Et del sofrir tant que je voie  
 Se jel porrai metre an la voie  
 Par *sanblant* et par moz coverz.

## II.

Not more than Three of the following questions to be answered.

1. To what dialects belong the extracts given in Part I? Discuss fully.
2. Trace briefly the development of the Latin atonic vowels in French.
3. Give examples of (a) dissimilation, (b) metathesis, (c) prosthesis, (d) epenthesis, in French.
4. Discuss the irregularities in the plural of French nouns.
5. Discuss the rhyme in modern French poetry.

## III.

*Either—*

Trace the development of the *Chanson de Geste* in French Literature;

*Or—*

Give an account of the literary career of Chretien de Troyes.

EXAMINATIONS FOR FINAL HONOURS, 1918.

---

(C.) MENTAL AND MORAL PHILOSOPHY.

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PAPERS.								Page.
1. Ethics	..	..	..	..	..	..	..	182
2. History of Metaphysics	..	..	..	..	..	..	..	183
3. Critical Metaphysics	..	..	..	..	..	..	..	184
4. Epistemology	..	..	..	..	..	..	..	184
5. Psychology	..	..	..	..	..	..	..	185

**(C.) MENTAL AND MORAL PHILOSOPHY.**

**1. ETHICS.**

**Attempt Three questions from each section.**

SECTION A.

1. Sketch the development of the idea of Justice as it appears in English philosophical thought from Hobbs to Mill.
2. Estimate the position of Nietzsche in relation to previous and contemporary thought.
3. Distinguish the *personal* from the *formal* character of the moral ideal.
4. Illustrate historically the way in which different virtues have been differently estimated at different times. What were the main factors in producing changes of value?
5. Sidgwick says that the notion of perfection is incapable of furnishing guidance. Estimate the practical value of Green's conception of the Moral End as compared with that of Ethical Hedonism.

SECTION B.

6. Estimate the value of Rousseau's conception of the General Will from the standpoint of our experience of modern democracy.
7. "The rights of property are the most sacred of all the rights of citizens, more so in some respects than liberty itself" (*Rousseau*). How far is this statement consistent with Rousseau's original contract theory?
8. "The conduct of a nation must be judged by the same moral standard as the conduct of individuals." Discuss with reference to the relation between Ethics and Politics.
9. With what qualifications would you be prepared to accept the Contract Theory of the State?
10. Discuss, from the standpoint of Green's political philosophy, recent claims of the individual conscience against the State.

2. HISTORY OF METAPHYSICS.

Attempt Six questions.

1. Describe the development of the conception of Substance in modern philosophy, and discuss the philosophical importance of the conception.

2. How far was the existence of a benevolent God essential to Descartes' system? Discuss Descartes' statement that "the existence of God is demonstrated *à posteriori*, from this alone, that his idea is in us."

3. Explain the significance of the following quotations from Spinoza :—

"The order and connection of ideas is the same as the order and connection of things.

"Will can only be called a necessary cause, not a free one.

"He who loves God cannot endeavour to bring it about that God should love him in return."

4. Explain the significance of the following terms in the philosophy of Leibnitz :—*Monad, contingent truth, componible, sufficient reason.*

5. Show how Locke's empiricism led to conflicting accounts of Reality.

6. State and examine Berkeley's arguments that "all we know is idea only." How and why did he modify his first Idealism?

7. State and examine Hume's doctrine of Abstract Ideas.

8. Trace the influence of Newton's thought upon Kant's development.

9. How does Kant understand the functions of *Imagination, Understanding, Reason*? What does he mean by "intellectual perception"? How did this conception affect his general system?

10. How did Kant reach his system of Transcendental Ideas? What is the significance of the Ideas in his philosophy?

**3. CRITICAL METAPHYSICS.**

**Attempt Six questions.**

1. Define the distinction between mechanical and teleological explanation, giving one illustration of each from modern philosophy.

2. What are the main difficulties in applying the teleological principle of explanation to Nature?

3. State and examine the assumptions involved in the theory of psycho-physical parallelism.

4. Examine the scientific conception of Energy, with special reference to its metaphysical implications.

5. Is a science of Nature based on experiment possible on Lockean or Humean premises ?

6. "Kant has *not* answered Hume" (*Hutchison Stirling*). State the reasons why you do or do not accept this general verdict.

7. "Certain postulates regarding the cosmic order are necessarily involved if the moral judgment is to be valid." Discuss with special reference to Kant's philosophy.

8. Discuss the assertion that Kant's theory of Perception cannot escape ending in Solipsism.

9. "A point of view from which Criticism is possible cannot be one reached by mere abstraction. . . . Now it is just this point that Kant seems to lose sight of in his first attempt to criticise the way in which we represent the world in time and space." Consider this criticism of the Dissertation of 1770. How far is it applicable also to the Critique?

**4. EPISTEMOLOGY.**

**Attempt Six questions.**

1. Apply Bosanquet's general theory of the judgment to hypothetical, disjunctive, and negative judgments.

2. "If truth is the systematic coherence of the absolute whole of experience, the result is that, humanly speaking, there can be no truth." Discuss this statement.

3. Criticise the copy or correspondence theory of truth from the standpoint either of Bradley's Appearance and Reality, or Bergson's Creative Evolution.

4. "To the metaphysician truth must be a matter of logic, never a matter of psychology." State and discuss the pragmatist criticism of this assertion.

5. "The law of the Rationality of Nature is simply the metaphysical correlate of the logical law of Identity." Explain and discuss this remark with special reference to the scientific postulate of the Uniformity of Nature.

6. How does the new Realism differ from the old, in its treatment of the fundamental problem of knowledge?

7. The demonstrations of Geometry "are not properly demonstrations, being built on ideas which are not exact, and maxims which are not precisely true" (*Hume*). How is *Hume* led to this position? Consider its accuracy.

8. Explain *Kant's* statement that "by means of the transcendental determination of time the category may be applied to phenomena."

9. "In this case, therefore (*i.e.*, in regard to causal succession) the *subjective succession* of apprehension must be derived from the *objective succession* of the phenomena" (*Kant*). Explain and critically discuss.

## 5. PSYCHOLOGY.

### Attempt Six questions.

1. "My experience is what I agree to attend to."

"... subjective interest may, by laying its weighty index-finger on particular items of experience, so accent them as to give to the least frequent associations far more power to shape our thoughts than the most frequent ones possess. The interest itself, though its genesis is doubtless perfectly *natural*, makes experience more than it is made by it."

Compare *James's* teaching with respect to the selective character of attention with his theory of the emotions.

*Principles of Psychology.*

2. "It is just this free water of consciousness that psychologists resolutely overlook. Every definite image in the mind is steeped and dyed in the free water that flows round it. . . . The significance, the value, of the image is all in this halo or penumbra that surrounds and escorts it. . . ."



“ Let us call the consciousness of this halo of relations around the image by the name of ‘psychic overtone’ or ‘fringe.’ ”

“ Nothing is easier than to symbolize these facts in terms of brain action.” Text-book of Psychology.

How far is this description of consciousness sensationistic ? What justification has James for immediate translation into terms of physiology ?

3. In what way do the facts of nervous facilitation and inhibition tell against Titchener’s theory of consciousness ?

4. “ James’s doctrine of the ‘ Me ’ does not develop his theory of a ‘ stream ’ of consciousness but suggests an alternative to it.” Discuss the truth of this assertion.

5. In discussing the perception of space, James says—

“ Whilst we are attending to one, or at most to two or three objects, all the others *lapse*, and the most we feel of them is that they still linger on the outskirts and can be caught again by turning in a certain way. Nevertheless *throughout all this confusion we conceive of a world spread out in a perfectly fixed and orderly fashion, and we believe in its existence. The question is: How do this conception and this belief arise? How is the chaos smoothed and straightened out?* ”

State and criticize the answer James gives to these questions. So far as you are able, compare his doctrines with those of Mitchell.

6. “ It is probable, also, that man’s *superior association by similarity* has much to do with those discriminations of character on which his higher flights of reasoning are based.”

How far is James successful in describing the essential features of scientific and logical thinking ?

7. Discuss James’s attitude to the notions of a “ manifold ” of experience and a “ synthetic ” self.

8. How far can James’s theory of the “ Social Me ” be reconciled with Tarde’s doctrine that socially all is invention and imitation ?

9. To what extent do modern theories of the part played by “ irrational ” or “ extra-logical ” factors in political thinking imply that consciousness is a stream ?

10. Compare the respective descriptions of the “ originals ” of consciousness supplied by Locke, James, and Mitchell.

EXAMINATIONS FOR FINAL HONOURS, 1918.

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FACULTY OF SCIENCE.

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Papers set in the Schools of—

	Page.
(A.) BIOLOGY .. .. .	189
(B.) CHEMISTRY .. .. .	193
(C.) GEOLOGY AND MINERALOGY .. .. .	195
(D.) MATHEMATICS .. .. .	199



EXAMINATIONS FOR FINAL HONOURS, 1918.

---

(A.) BIOLOGY.

---

PAPERS.							Page.
1. First Paper	..	..	..	..	..	..	190
2. Second Paper	..	..	..	..	..	..	190
3. Third Paper	..	..	..	..	..	..	191
4. Fourth Paper	..	..	..	..	..	..	191
5. Fifth Paper (Practical).							
6. Sixth Paper (Practical).							

**(A.) BIOLOGY.**

**1. BIOLOGY—First Paper.**

**Not more than Five questions to be attempted. Illustrate your answers by means of sketches.**

1. Discuss the importance of the centrosome.
2. Write an account of the structure, development, and relationships of the Myxosporidia.
3. Discuss the various means by which parasitic protozoa are known to be transferred from host to host.
4. Write an essay on the Temnocephalæ.
5. Discuss the affinities of the Echinodermata.
6. Give an account of the development of a dibranchiate cephalopod.
7. State what you know of the structure, life history, and economic importance of the Ixodoidea.

**2. BIOLOGY—Second Paper.**

**Not more than Five questions to be attempted. Illustrate your answers by means of sketches.**

1. Give an account of the development of a Cephalochordate.
2. Write an essay on the gill-cleft derivatives.
3. Compare and contrast the renal-portal system in the various classes of Vertebrata.
4. What are the salient features of the Rhynchocephalia? Discuss the affinities of the group.
5. Compare and contrast the skulls of a typical Stegocephalian, Cæcilian, and Anuran.
6. Discuss the relationships of the Monotremata.
7. Give a detailed account of the development of the vertebrate eye.

**3. BIOLOGY—Third Paper.****Not more than Three questions to be attempted.**

1. Write a concise account of the history of organic evolution prior to 1859.
2. Along what lines, and by whom, has the theory of selection been elaborated during the last half-century ?
3. "Before the time of Darwin, variations were frequently regarded as abnormalities, inconvenient to the systematist and of relatively small importance." Discuss this statement with reference to modern research.
4. Give an account of the probable descent of the Angiospermeæ from the Thallophyta.

**4. BIOLOGY—Fourth Paper.****Not more than Three questions to be attempted.**

1. Herbert Spencer wrote—" . . . either there has been inheritance of acquired characters, or there has been no evolution." Discuss the statement.
2. State what occurs in the  $F_2$  generation by crossing two varieties of peas, one characterised by
  - (a) Round seeds,
  - (b) Yellow albumen,
 and the other by
  - (a) Angular seeds,
  - (b) Green albumen.
 Give the theory explaining the results.
3. What were Darwin's views regarding the descent of man ?
4. What are the characteristic features and relationships of the South American fauna ?

**5. BIOLOGY—Fifth Paper.**

(Practical.)

**6. BIOLOGY—Sixth Paper.**

(Practical.)



EXAMINATIONS FOR FINAL HONOURS, 1918.

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(B.) CHEMISTRY.

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PAPERS.

	Page,
1. First Paper .. .. .	194
2. Second Paper .. .. .	194
3. Third Paper .. .. .	194



**(B.) CHEMISTRY.**

**1. CHEMISTRY—First Paper.**

Write Essays on *four* of the following subjects :—

- (a) The distillation of binary liquid mixtures ;
- (b) Indicators ;
- (c) The Intermediate Compound Theory of Catalysis ;
- (d) The “ Order ” of a chemical reaction ;
- (e) Electrode potential.

**2. CHEMISTRY—Second Paper.**

Write Essays on *five* of the following subjects :—

- (a) Enzymes and enzyme action ;
- (b) Dynamic Isomerism ;
- (c) The Azo-compounds ;
- (d) Amino-acids and polypeptides ;
- (e) The Grignard reaction ;
- (f) “ Unsaturation ” of organic compounds.

**3. CHEMISTRY—Third Paper.**

Write Essays on *four* of the following subjects :—

- (a) The inactive gases of the Helium group ;
- (b) The relative properties of the A and B subgroups of the Periodic Table ;
- (c) Van't Hoff and his work ;
- (d) The Stereo-chemistry of inorganic compounds ;
- (e) Industrial nitrogen compounds.

EXAMINATIONS FOR FINAL HONOURS, 1918.

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(C.) GEOLOGY AND MINERALOGY.

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PAPERS,

	<b>Page.</b>
1. First Paper .. .. .	196
2. Second Paper .. .. .	196
3. Third Paper .. .. .	197
4. Fourth Paper .. .. .	197
5. Fifth Paper (Practical).	

**(C.) GEOLOGY AND MINERALOGY.**

**1. GEOLOGY AND MINERALOGY—First Paper.**

Five questions only to be attempted.

1. "The area of the surface of the globe is not a diminishing one." (*Schwarz.*)

Criticise this statement.

2. Give an account of the bearing of recent developments in physical chemistry on Petrogenesis.

3. Discuss the prospects of finding oil in Australia.

4. "In all probability the ocean is subject to an independent movement which in the course of long periods causes an alternation of positive and negative phases at the Equator." (*Suess.*)

Discuss this statement.

Does a study of stratigraphical geology tend to confirm it or otherwise?

5. Describe the chief tectonic features of Tasmania, and indicate to what extent they are represented in the South-Eastern part of Australia.

6. Discuss fully the evidence of the age of the Brisbane schists.

**2. GEOLOGY AND MINERALOGY—Second Paper.**

1. Give a general account of the Zeolites, paying special attention to their origin.

2. What do you understand by "Magmatic Stopping" as used by Daly?

Does a study of the Australian granitic batholiths and stocks tend to support or otherwise the views of Daly?

3. Give an account of the chronological sequence of associated igneous rocks.

Does the order of the Tertiary effusive rocks in Eastern Australia coincide with the general rule or otherwise?

4. "Differentiation attains a wider range and on more varied lines in alkaline than in sub-alkaline lavas." (*Harker.*)

Discuss this statement.

5. What evidence is there for the existence of plutonic water? Discuss the part played by it in ore-genesis.

**3. GEOLOGY AND MINERALOGY—Third Paper.**

Write Essays on any *four* of the following :—

- (a) Ore-shoots ;
- (b) Contact ore-deposits ;
- (c) Artesian water ;
- (d) Coal-measures of Australia ;
- (e) Coral-reefs ;
- (f) Clays.

**4. GEOLOGY AND MINERALOGY—Fourth Paper.**

TIME ALLOWED—SIX HOURS.

Summarise and criticise the accompanying paper—

"Notes on the Structural Relations of Australasia, New Guinea, and New Zealand," by E. C. Andrews.

**5. GEOLOGY AND MINERALOGY—Fifth Paper.**

(Practical.)

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EXAMINATIONS FOR FINAL HONOURS, 1918.

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(D.) MATHEMATICS.

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PAPERS.

	Page.
1. Algebra and Trigonometry .. .. .	200
2. Analytical Geometry.. .. .	202
3. Dynamics .. .. .	203
4. Geometry and Differential Equations .. .. .	205
5. Mathematical Analysis—First Paper .. .. .	206
6. Mathematical Analysis—Second Paper .. .. .	208
7. Mathematical Physics .. .. .	210
8. Bookwork .. .. .	212
9. Problems .. .. .	212

**(D.) MATHEMATICS.**

**1. ALGEBRA AND TRIGONOMETRY.**

1. Find the condition that the system of equations

$$\sum_{t=1}^n a_{st} x_t = 0 \quad [s = 1, 2, \dots, n]$$

may have solutions other than zero.

For what values of  $\lambda$  has the system

$$\begin{aligned} x + y + z &= \lambda x \\ x + 2y + z &= \lambda y \\ x + y + 2z &= \lambda z \end{aligned}$$

solutions other than zero.

Find the solutions.

2. Shew that an ascending sequence of which all the members are finite is convergent.

Explain the importance of this fact in the theory of series of positive terms.

Test the convergence of

$$\sum x^n / [(n + 1)^k - (n - 1)^k].$$

3. Shew that  $Li(a^h - 1) / h = \log_e a$ ,  
 $h \geq 0$

Hence or otherwise prove that

$$\log(1 + x) = - \sum_1^{\infty} (-x)^r / r.$$

If  $a + b + c + d = 0$

$$a^{-1} + b^{-1} + c^{-1} + d^{-1} = 0,$$

shew that when  $n$  is odd

$$a^n + b^n + c^n + d^n = 0.$$

4. Prove De Moivre's Theorem for a rational index.

$$\text{If } \cos a + \cos \beta + \cos \gamma + \cos \delta = 0$$

$$\sin a + \sin \beta + \sin \gamma + \sin \delta = 0,$$

prove that when  $n$  is odd

$$\cos na + \cos n\beta + \cos n\gamma + \cos n\delta = 0$$

$$\sin na + \sin n\beta + \sin n\gamma + \sin n\delta = 0.$$

Prove also that

$\Sigma \cos 4\alpha + 4 \cos \Sigma \alpha = 2 [\Sigma \cos (\alpha + \beta)]^2 - 2 [\Sigma \sin (\alpha + \beta)]^2$   
 where the summations on the right-hand side are taken for all possible pairs of the angles  $\alpha, \beta, \gamma, \delta$ .

5. Prove that

$$\cos n\theta - \cos n\alpha = 2^{n-1} \prod_{r=0}^{n-1} \left[ \cos \theta - \cos \left( \alpha + \frac{2r\pi}{n} \right) \right].$$

Prove that

$$\begin{aligned} \sec \alpha + \sec \left( \alpha + \frac{2\pi}{5} \right) + \sec \left( \alpha + \frac{4\pi}{5} \right) + \sec \left( \alpha + \frac{6\pi}{5} \right) \\ + \sec \left( \alpha + \frac{8\pi}{5} \right) = 5 \sec 5\alpha. \end{aligned}$$

6. If  $x = a$  is an approximate solution of the equation  $x = \tan x$ , find a more accurate solution.

7. If  $\alpha$  is a root of  $f(x) \equiv x^n + a_1 x^{n-1} + \dots + a_n = 0$ , shew that

$$f'(x) / f(x) = \Sigma (x - \alpha)^{-1}$$

where the summation is taken over all the roots.

Find the sum of

- (1) The fourth powers,
- (2) The seventh powers

of the roots of

$$x^6 + x^2 - 2x - 2 = 0.$$

8. Define the vector product and scalar product of two vectors.

Prove that

$$(A \cdot V[BC]) = (B \cdot V[CA]) = (C \cdot V[AB]).$$

Four vectors  $A, B, C, D$  are drawn from a point.

Shew that they end in coplanar points if

$$(P \cdot V[QR]) = 0,$$

where  $P = A - B$

$$Q = B - C$$

$$R = C - D.$$



## 2. ANALYTICAL GEOMETRY.

1. Find an expression for the distance of a given point from a given straight line.

Find the locus of a point which moves so as to be equidistant from two given skew lines.

2. Investigate the relations between the direction cosines of two sets of rectangular axes through the same origin.

Find the actual nature of the section of  $ax^2 + by^2 = 2z$  by the plane  $lx + my + nz = p$ , and find the condition that this section may be a rectangular hyperbola.

3. A straight line is always parallel to the plane  $x = 0$  and passes through the curves  $x^2 + y^2 = a^2$ ,  $z = 0$ , and  $x^2 = az$ ,  $y = 0$ . Find the equation to the surface generated by the line.

Give a general sketch of the surface and indicate any singular points.

4. Shew that three confocal quadrics pass through any point and intersect orthogonally. Also that two members of the system touch a given line and cut at right angles.

If two confocal surfaces be viewed from any point shew that their apparent contours cut at right angles.

5. Prove that three quadrics have in general eight points in common, and shew that all quadrics through seven given points pass through an eighth associated point.

Prove that any two plane sections of a conicoid and the poles of these planes lie on another conicoid.

6. Derive the discriminating cubic, and apply it to reduce  $f(x, y, z)$ .

Find the nature of, and sketch,

$$32x^2 + y^2 + 4z^2 - 16xz - 8xy = 1.$$

7. Establish the Serret-Frenet formulæ for a tortuous curve.

Shew that the radius of curvature of the spherical indicatrix of the tangents to a curve is  $\rho_0$  where

$$\frac{1}{\rho_0^2} = \frac{\rho^2 + \sigma^2}{\sigma^2}.$$

8. Investigate expressions for the differentials of the direction cosines of the normal at any point on a surface.

Deduce the differential equations for the lines of curvature and an equation for the principal radii of curvature at any point. Find these in the case of the ellipsoid.

**3. DYNAMICS.**

1. A periodic force  $X = mf_0 \cos \lambda t$  is applied to a particle whose natural simple harmonic frequency is  $\frac{n}{2\pi}$ , and which is subject to damping given by  $2k \times$  velocity. Form and solve the differential equation of the resulting motion. Discuss this solution and give physical examples.

An electrical circuit of resistance 500 ohms and inductance .01 henry contains a condenser of capacity  $2.10^{-6}$  farad. If a constant E.M.F. of 2,000 volts is applied, find the current at any time and draw roughly the current-time curve.

2. Shew that the path of a particle in a central field of force is in a plane through the centre of force, and that the radius vector describes equal areas in equal times.

Find the differential equation to the path, and solve in the case where  $f = \mu u^2$ .

A particle is projected with velocity  $V$  at distance  $R$  from the centre of force. Find the direction of projection if the path is to be a rectangular hyperbola.

3. Find expressions for the acceleration components of a point moving on a tortuous curve.

At any point  $A$  on such a curve a given length  $AT = k$  is measured in the positive sense along the tangent to the curve. Find the velocity and acceleration components of  $T$  at any instant in terms of the elements of the path of  $A$ .

4. The configuration of a material system is determined by a single co-ordinate  $\theta$ . Shew that the energy equation is of the form

$$C\dot{\theta}^2 + 2F(\theta) = \text{constant}$$

where the first term represents the kinetic energy and the second the potential energy.

Find the analytical form of the coefficient  $C$ .

Shew further that equilibrium positions are indicated by the equation  $F'(\theta) = 0$  and that small oscillations about an equilibrium position  $\theta = \alpha$  are given approximately by

$$C\ddot{\theta} + F''(\alpha)(\theta - \alpha) = 0.$$

Hence, develop a criterion for determining the stability of the equilibrium.

A uniform chain of given mass and length hangs in equilibrium over a pulley. If the system be just started from rest and the chain does not slip relatively to the pulley, find the equation of motion, and also the tensions at the points where the chain leaves the pulley, when the latter has turned through an angle  $\theta$ .

5. A body moves about a fixed axis under the action of any forces. Shew how to find the reactions on the axis.

A rectangular lamina  $ABCD$  can turn freely about the straight line joining  $E$  and  $F$ , the midpoints of  $AB$  and  $BC$  respectively, and this axis is fixed in a vertical position. Find with what angular velocity the lamina must be set in rotation that the reaction on the axis may reduce to a single force at the foot of the perpendicular from the centre of the lamina to the axis  $EF$ .

6. A vessel containing heavy liquid is constrained to move with uniform acceleration in a straight line. Prove that the free surface is plane, and establish the equations you make use of.

A barometer is suspended freely from the roof of a railway carriage which is at rest on a slope of inclination  $\alpha$ . If the carriage be now allowed to run freely down the slope, shew that the barometer reading is increased in the ratio  $\sec \alpha$  to 1, but if the barometer be fixed at right angles to the floor of the carriage there will be no change in the barometer reading when the carriage moves.

7. Establish Euler's equations for the motion of a rigid body about a point.

Apply these equations to discuss the stability of rotation of a body about one of its principal axes under no forces.

If  $A = 100$ ,  $B = 60$ , and  $C = 40$  units, and the body be rotating under no forces about  $OA$  with 900 revolutions a minute, find the period of the wobble set up by a slight disturbance of the axis of spin.

8. Discuss the motion of a heavy uniaxial top, and find the conditions for steady precession.

**4. GEOMETRY AND DIFFERENTIAL EQUATIONS.**

1. Prove that if two triangles are in space perspective the points of intersection of corresponding sides are collinear.

Prove that if a pair of corresponding sides of the triangles are parallel the medians bisecting those sides are concurrent.

2. Prove that the cross-ratio of four collinear points is equal to the cross-ratio of the pencil formed by their poles with respect to a conic.

$P$  and  $Q$  are points on a tangent to a conic equidistant from the point of contact  $T$ . If the other tangents to the conic from  $P$  and  $Q$  touch at  $M$  and  $N$ , prove that  $TM, TN$  are harmonic conjugates with respect to the tangent at  $T$  and the diameter through  $T$ .

3. Shew that all circles intersect at the same imaginary points at infinity and, conversely, that all conics through these points are circles.

The tangent at  $P$  to a conic through four fixed points  $A, B, C, D$  cuts  $AB, CD$  at  $E$  and  $F$ .  $Q$  is the harmonic conjugate of  $P$  with respect to  $E$  and  $F$ . Prove that the conic through  $A, B, C, D, Q$  touches  $EF$ .

4. Prove that the opposite sides of a hexagon inscribed in a conic intersect in three collinear points.

$A, B, C, P, Q, R$  are points on a conic such that  $AQ$  and  $BR$  are parallel respectively to  $BP$  and  $CQ$ . Prove that  $CP$  is parallel to  $AR$ .

5. Reduce the linear equation

$$\frac{d^2y}{dx^2} + P \frac{dy}{dx} + Qy = 0$$

to the form

$$\frac{d^2z}{dx^2} + I z = 0.$$

Solve the equation

$$\log x \frac{d^2y}{dx^2} + \frac{2}{x} \frac{dy}{dx} + \left( n^2 \log x - \frac{1}{x^2} \right) y = 0.$$

6. Shew that if there is a family of surfaces orthogonal to the curves whose differential equation is

$$\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R},$$

$$\text{then } \Sigma P \left( \frac{\partial R}{\partial y} - \frac{\partial Q}{\partial z} \right) = 0.$$

Find the surfaces orthogonal to the curves given by

$$\frac{a dx}{y/b - z/c} = \frac{b dy}{z/c - x/a} = \frac{c dz}{x/a - y/b}.$$

7. Shew that  $J_n(x)$ , defined by the series

$$(x/2)^n \sum_0^{\infty} (-x^2/4)^r / r! \Gamma(n+r+1)$$

satisfies the differential equation

$$\frac{d^2y}{dx^2} + \frac{1}{x} \frac{dy}{dx} + \left( 1 - \frac{n^2}{x^2} \right) y = 0.$$

Shew that

$$J_{n-1}(x) = \frac{d}{dx} J_n(x) + \frac{n}{x} J_n(x).$$

**5. MATHEMATICAL ANALYSIS—First Paper.**

1. Prove Leibnitz' Theorem on the  $n^{\text{th}}$  differential coefficient of the product of two functions.

Shew that

$$D^n (x^2 - a^2)^{-k} = \frac{(-1)^n n!}{(x^2 - a^2)^k [\Gamma(k)]^2} \sum_{r=0}^n \frac{\Gamma(k+r) \Gamma(n+k-r)}{r! (n-r)! (x-a)^r (x+a)^{n-r}}.$$

Deduce the sum of the series

$$\sum_{r=0}^n (-1)^r \frac{\Gamma(k+r) \Gamma(n+k-r)}{r! (n-r)!}.$$

2. Prove that with certain conditions as to continuity

$$f(x) = f(0) + xf_1(0) + \frac{x^2}{2!} f_2(\theta x)$$

where  $0 < \theta < 1$ .

If  $z = F(y)$  and  $y = f(x)$ ,  
shew that the first three terms in the expansion of  $z$  in powers of  $x$  are

$$F(a) + xf_1(0) F_1(a) + \frac{x^2}{2!} [F_2(a) \{f_1(0)\}^2 + F_1(a) f_2(0)]$$

where  $a = f(0)$ .

State conditions necessary for the validity of this result.

3. Integrate  $[1 + x^{\frac{1}{2}}]^{-\frac{1}{2}}$ ;  $\tan^5 \theta$ .

Shew that

$$\int_a^\beta (\beta - x)^m (x - a)^n dx = (\beta - a)^{m+n+1} \Gamma(m+1) \Gamma(n+1) / \Gamma(m+n+2).$$

4. What is meant by the statement that a series is uniformly convergent?

Prove that the integral of the sum of a uniformly convergent series is equal to the sum of the integrals of the terms.

Find a series in powers of  $a$  for the function  $J_0(a)$  defined by the equation

$$\pi J_0(a) = \int_0^\pi \cos(a \cos \phi) d\phi.$$

5. Shew that if  $F(x, t)$  and  $\frac{\partial}{\partial x} F(x, t)$  are continuous functions of  $x$  for all values of  $t$  in the range  $a \leq t \leq b$ , then

$$\frac{\partial}{\partial x} \int_a^b F(x, t) dt = \int_a^b \frac{\partial}{\partial x} F(x, t) dt.$$

Shew that the function  $J_0(x)$  defined above satisfies the differential equation

$$\frac{d^2 y}{dx^2} + \frac{1}{x} \frac{dy}{dx} + y = 0.$$

6. Investigate the convergence of

$$\int_0^1 (\log x)^n dx; \int_0^\infty (x^2 + a^2)^{-k} dx; \int_0^\infty e^{-x} \sin x dx.$$

Shew that if  $F(x, t)$  remains finite for all values of  $x$  and  $t$  such that  $x \geq 0, t > 0$ , then

$\int_0^\infty e^{-tx} F(x, t) dx$  converges absolutely and uniformly for all positive values of  $t$ .

7. Prove that if  $\phi(t)$  is positive and  $|F(t)| < M$  throughout the interval  $a \leq t \leq b$ , then

$$\int_a^b F(t) \phi(t) dt < M \int_a^b \phi(t) dt.$$

$A_r(x)$  is a function defined by the equations

$$A_0(x) = 1$$

$$A_r(x) = 4 \int_0^x A_{r-1}(t) \cdot t(x-t) dt.$$

Shew that  $A_r(x) < x^{3r}/r!$

Deduce that the series

$$\sum_{r=0}^\infty A_r(x) \lambda^r \text{ is uniformly and absolutely convergent.}$$

Shew that the function  $\phi(x)$  defined by the series satisfies the equation

$$\phi(x) = 1 + 4\lambda \int_0^x t(x-t) \phi(t) dt.$$

### 6. MATHEMATICAL ANALYSIS—Second Paper.

1. Define the double integral of a function throughout a finite region, and explain how it is calculated.

If  $F(x, y)$  is continuous over the region  $0 \leq x \leq y \leq a$ , prove that

$$\int_0^a \int_0^y F(x, y) dy dx = \int_0^a \int_x^a F(x, y) dx dy.$$

Prove also that if  $y^n F(x, y)$  remains finite for all values of  $x \leq y$  as  $y \rightarrow \infty$ ,

$$\int_0^\infty \int_0^y F(x, y) dy dx = \int_0^\infty \int_x^\infty F(x, y) dx dy,$$

provided that  $n$  is greater than 2.

2. Assuming that

$$\lim_{\mu \rightarrow \infty} \int_a^b f(x) \frac{\sin \mu x}{x} dx = 0 \quad 0 < a < b$$

$$\lim_{\mu \rightarrow \infty} \int_0^a f(x) \frac{\sin \mu x}{x} dx = \frac{\pi}{2} f(0) \quad 0 < a$$

investigate the sum of the series

$$\sum_{r=0}^{\infty} (A_r \cos rx + B_r \sin rx)$$

$$\text{where } A_0 = \frac{1}{2\pi} \int_0^{2\pi} F(t) dt$$

$$A_r = \frac{1}{\pi} \int_0^{2\pi} F(t) \cos rt dt \quad r \neq 0$$

$$B_r = \frac{1}{\pi} \int_0^{2\pi} F(t) \sin rt dt.$$

Find a Fourier Cosine Series representing  $x$  over the range  $0 < x < \pi$ .

What does the series represent outside the range?

3. Explain what is meant by an analytic function of the complex variable.

Find the conditions that  $u + iv$  may be an analytic function of  $x + iy$ .

If  $z = e^w$  shew that the  $z$  plane corresponds to a strip of the  $w$  plane.

Shew further that in the  $z$  plane a point  $P$ , the circle  $r = a$ , and the inverse of  $P$  with respect to the circle correspond to a point, a segment of a straight line, and the image of the point in the straight line in the  $w$  plane.



4. Define the integral of  $F(z)$  taken along a path  $AB$ .

Shew that  $|\int_{AB} F(z) dz| < Ml$ , where  $M$  is the upper bound of the values of  $F(z)$  along the path of integration, and  $l$  is the length of the path.

If  $|z|^k F(z)$  remains finite as  $|z| \rightarrow \infty$  shew that the integral of  $F(z)$  taken over an arc of a circle with centre at the origin tends to zero as the radius of the circle tends to infinity provided that  $k > 1$ .

5. Assuming that  $\int_c \frac{f(z)}{(z-a)} dz = 2\pi i f(a)$ , establish

Taylor's expansion for  $f(a+h)$  in a series of powers of  $h$ .

Under what conditions is your original assumption correct?

Expand  $\tan^{-1} z$  in powers of  $z$ , and find the radius of the circle of convergence of the series you obtain.

6. If  $F$  is any vector define  
 $\text{curl } F, \text{div } F$ .

Prove that

$$\text{curl}^2 F = \nabla \text{div } F - \nabla^2 F.$$

If  $E$  and  $H$  are two vectors satisfying the equations

$$k E = \text{curl } H,$$

$$-k H = \text{curl } E,$$

prove (1)  $\nabla^2 H = k^2 H$

(2)  $H$  and  $E$  are orthogonal

### 7. MATHEMATICAL PHYSICS.

1. State and prove Gauss' Theorem in the Theory of Attractions.

Find the intensity of attraction at a point

(a) Outside,

(b) Inside

a uniform hollow circular cylinder.

2. A point charge  $e$  is placed at the point  $x = a$  in a two-dimensional region extending to infinity on the positive side of the line  $x = 0$ . If the boundary  $x = 0$  is a conductor, find the potential at any point in the region, and the density of the induced charge at the origin.

3. Explain the use of the complex variable in solving two-dimensional problems in electrostatics.

What problem is solved by transforming the region in Question 2 by the substitution  $Z = z^2$ ?

4. Assuming that under certain conditions

$$\int \int \int \left( \frac{\partial P}{\partial x} + \frac{\partial Q}{\partial y} + \frac{\partial R}{\partial z} \right) dx dy dz = \int \int [lP + mQ + nR] dS,$$

shew that the potential function  $\phi$  in a region containing no charges satisfies the equation

$$\int \int \int \left[ \left( \frac{\partial \phi}{\partial x} \right)^2 + \left( \frac{\partial \phi}{\partial y} \right)^2 + \left( \frac{\partial \phi}{\partial z} \right)^2 \right] dx dy dz = \int \int \phi \frac{\partial \phi}{\partial v} dS.$$

Deduce that when the potential is given over the boundary of the region it is determined at any point within the region.

What can you deduce when the potential is unknown but the charges are known over the boundary?

5. Express the potential equation in terms of polar co-ordinates, and explain briefly, without detailed working, how it is solved.

A conducting sphere at zero potential is introduced into a uniform field of force. Find the density of the charge induced on the sphere at an angular distance  $\alpha$  from the point of maximum density.

6. Find the differential equation satisfied by the velocity potential of a sound-wave.

Investigate the reflection of a plane-wave incident obliquely on a plane-screen.

## 8. BOOKWORK.

Write Essays on one or more of the following :—

- The Principles of Mechanics ;
- The Potential Function ;
- Involution ;
- Cauchy's Integration Theorems in the Theory of Functions of a Complex Variable ;
- The Solution of Partial Differential Equations of the First Order ;
- The Theory of Convergence.

## 9. PROBLEMS.

1.  $A, B, C, D, P$  are five points on a conic  $S_1$ . Shew that through  $A, B$ , and  $P$  a conic  $S_2$  can be drawn such that the tangents at  $P$  to  $S_1$  and  $S_2$  are harmonic conjugates with respect to  $PA$  and  $PB$ .

Shew further that if  $PC$  and  $PD$  are harmonic conjugates with respect to  $PA$  and  $PB$ , then the points in which  $S_2$  cuts  $CD$  are conjugate with respect to  $S_1$ .

2. Prove that the sphere  $x^2 + y^2 + z^2 = r^2$  cuts the family of cones

$$\frac{x^2}{a^2 + \lambda} + \frac{y^2}{b^2 + \lambda} + \frac{z^2}{c^2 + \lambda} = 0$$

in a family of curves which can be grouped into two families mutually orthogonal.

3. Shew that, if  $a > 0$  and  $n$  is a positive integer,

$$\int_0^{\infty} x^{-1} e^{-ax} \sin^{2n} x \, dx$$

$$= (2n)! 4^{-n} \sum_{\mathbf{1}} [(-1)^{r-1}/(n-r)! (n+r)!] \log [1 + (2r/a)^2].$$

4. In a two-dimensional region rigid barriers extend along the  $x$  axis from  $-\infty$  to  $-c$  and from  $+c$  to  $+\infty$ . Find the velocity potential due to a source at  $(X, Y)$ .

5. Shew that the envelope of those *planes* with respect to which the moment of inertia of a given material system of mass  $M$  is  $Mk^2$  is the quadric

$$\frac{x^2}{a^2 - k^2} + \frac{y^2}{b^2 - k^2} + \frac{z^2}{c^2 - k^2} + 1 = 0,$$

where  $Ma^2$ ,  $Mb^2$ , and  $Mc^2$  are the moments of inertia of the system with respect to the principal planes of the central ellipsoid of inertia (that corresponding to the centroid of the system). Shew further that the principal planes of inertia for any point  $O'$  ( $x'$ ,  $y'$ ,  $z'$ ), are the tangent planes to the three quadrics through  $O'$  which are confocal to the central ellipsoid of inertia, and the moments of inertia with respect to these three planes are  $Ma'^2$ ,  $M\beta'^2$ , and  $M\gamma'^2$ , where  $a$ ,  $\beta$ , and  $\gamma$  are the values of  $k$  given by

$$\frac{x'^2}{a^2 - k^2} + \frac{y'^2}{b^2 - k^2} + \frac{z'^2}{c^2 - k^2} + 1 = 0.$$

6. One end of a rod whose length is equal to the diameter of a spherical shell is passed through a hole in the shell and made to touch every point of the interior surface. Find the locus of the other end of the rod.

7. Shew that there exists generally a unique plane such that the sum of the squares of the perpendiculars drawn to it from a number of given points is a minimum.

8. The extremities of a uniform rod  $AB$  of mass  $m$  and length  $2a$  can slide on a fixed smooth, horizontal circle of radius  $b$ . An insect, also of mass  $m$ , is at rest at  $C$ , the centre of the rod, also at rest. The insect now begins to crawl from  $C$  towards  $B$ , with uniform velocity  $v$  relatively to the rod. Find the motion of the system and the angle which the rod has turned through when the insect reaches the end  $B$  of the rod.

9. A uniform lamina has the form of a pentagon  $ABCDE$  made up of a rectangle  $ABCE$  and an isosceles triangle  $CDE$  whose vertex is  $D$ . The side  $AB = 3m$ ,  $BC = 4m$ , and the altitude  $DH$  of the triangle  $CDE$  is  $2m$ . The mass of the lamina is 10 gr. Find the ellipsoid of inertia of the lamina with respect to the centre of the rectangle, and find the period of small oscillations of the lamina about the line  $AC$  if fixed horizontally.

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